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**NAVAL POSTGRADUATE SCHOOL**  
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**THESIS**

THE EFFECT OF PROVIDING ON-SITE  
CHILD CARE SERVICES ON PERSONNEL  
PRODUCTIVITY, MORALE AND RETENTION

by

Diane L.H. Lofink  
June, 1990

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SERVICES ON PERSONNEL PRODUCTIVITY,  
MORALE, AND RETENTION

by

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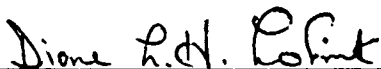
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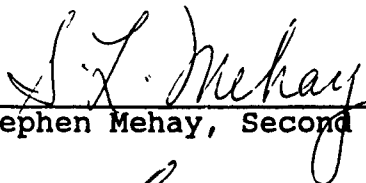


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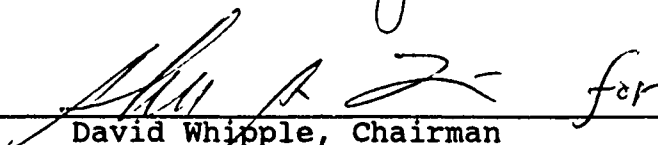
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## ABSTRACT

This thesis investigates the possible impact of on-site child development centers on the productivity, morale, and retention of Naval officers and enlisted personnel. A written survey was conducted of active-duty Navy personnel with dependents under age 13, assigned to eight Navy shore installations, four of which offer on-site child care and four of which do not. Approximately 39 percent of the respondents reported experiencing child care-related work interference, regardless of marital status or command type. Personnel at commands without on-site child care reported higher rates of several types of work interference. Of the 30 percent of respondents who reported that their child care experiences had influenced their decision to remain in the Navy, by a ratio of 2 to 1, they were more likely to leave than to remain on active-duty. However, statistical analyses conducted while controlling for other factors suggest that on-site centers do not significantly increase or decrease the probability of either work interference or career influence.



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## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
A.	THE PROBLEM .....	1
B.	AREA OF RESEARCH .....	3
C.	SCOPE AND LIMITATIONS .....	4
II.	BACKGROUND/LITERATURE REVIEW .....	5
A.	THE ECONOMIC THEORY OF CHILD CARE .....	5
1.	The Fixed Cost of Working .....	5
2.	The Economics of Fringe Benefits .....	8
B.	THE FAMILY VERSUS THE MILITARY .....	10
1.	High Proportion of Married Personnel .....	12
2.	Spousal Careers .....	12
3.	Active Duty Women and Dual Career Military Families .....	12
4.	Single-Parent Families .....	13
C.	MUTUAL WORK/FAMILY INTERFERENCE .....	13
1.	Workplace Implications of Placing Family Before Work .....	14
2.	Reducing Work and Family Conflicts .....	14
a.	Workplace Adaptations .....	14
b.	Family Adaptations .....	15
D.	ESTABLISHING THE NEED FOR CHILD CARE SERVICES FOR PARENT-EMPLOYEES .....	16
1.	Societal Attitudes Refuted .....	16

a.	Assumption: The Typical Family is the Traditional Family .....	16
b.	Assumption: Women Should Stay at Home For Child Care .....	18
c.	Assumption: Friends and Relatives Provide Most Child Care .....	19
d.	Assumption: Child Care is Strictly a Woman's Issue .....	23
2.	Management Attitudes and Corporate Response .....	25
a.	Employers' Child Care Program Options .....	25
b.	Availability of Employee-Sponsored Child Care .....	28
3.	The Costs of Providing Child Care Programs .....	32
a.	Monetary Costs .....	32
b.	Human Factor Costs .....	33
c.	Previous Cost-Benefit Analysis .....	35
III.	METHODOLOGY .....	40
A.	SELECTION OF SURVEY POPULATION .....	40
B.	CREATION AND DISTRIBUTION OF THE SURVEY .....	42
C.	STATISTICAL ANALYSIS PROCEDURES USED .....	44
1.	Testing Whether Child Care Problems Influence Retention .....	45
a.	Crosstabs .....	45
b.	Logistic Regressions .....	47
2.	Testing Whether On-Site Facilities Affect Incidence of Work Interference .....	47
a.	Crosstabs .....	47
b.	Logistic Regressions .....	49

IV.	BIVARIATE ANALYSIS OF SURVEY RESULTS .....	50
A.	CHARACTERISTICS OF RESPONDENTS .....	51
1.	Distribution Of Sample By Gender .....	51
2.	Distribution Of Sample By Marital Status, Officer/Enlisted Status and Age .....	51
3.	Racial/Ethnic Distribution .....	54
4.	Paygrade Distribution .....	55
5.	Educational Attainment .....	56
B.	PROFILE OF SPOUSAL EMPLOYMENT .....	56
1.	Officer/Enlisted Status of the Sample .....	59
2.	Command Types .....	59
C.	DISTRIBUTION OF MINOR DEPENDENTS .....	60
D.	CURRENTLY USED CHILD CARE ARRANGEMENTS .....	62
E.	CHILD CARE RELATED WORK INTERFERENCE .....	63
1.	Work Interference Analyzed by Marital Status .....	65
2.	Work Interference Analyzed by Command Type .....	65
F.	CHILD CARE EXPERIENCES' INFLUENCE ON THE CAREER DECISION .....	67
1.	The Positive/Negative Influence Of Child Care On a Career By Officer/Enlisted Status .....	67
2.	The Positive/Negative Influence Of Child Care On a Career By Command Type .....	70
G.	PROFILE OF USERS OF MILITARY ON-SITE CHILD DEVELOPMENT CENTERS .....	72
H.	PERCEPTIONS OF WHETHER ON-SITE MILITARY CHILD DEVELOPMENT CENTERS RELIEVE WORK INTERFERENCE .....	72

I.	PERCEPTIONS OF WHETHER AN ON-SITE MILITARY CHILD DEVELOPMENT CENTER WOULD RELIEVE WORK INTERFERENCE IF IT WERE AVAILABLE .....	73
J.	PRESENT AND FUTURE CHILD CARE FACILITIES FOR COMMANDS WITHOUT ON-SITE CENTERS .....	73
APPENDIX A.	COMPARISON OF COMMANDS .....	97
APPENDIX B.	QUESTIONNAIRE ON MILITARY SPONSORED CHILD CARE SERVICES .....	98
APPENDIX C.	SAMPLE OF LETTER SENT TO SURVEYED COMMANDS' PROJECT OFFICERS .....	103
APPENDIX D.	SAS STATISTICAL PROGRAM CODE .....	105
APPENDIX E.	DESCRIPTION OF VARIABLES USED IN STATISTICAL ANALYSIS .....	114
APPENDIX F.	SELECTED CROSSTABULATIONS AND LOGISTIC REGRESSION RESULTS WITH TEST STATISTICS (Z-VALUES) .....	118
	LIST OF REFERENCES .....	197
	INITIAL DISTRIBUTION LIST .....	200



## LIST OF FIGURES

Figure 1.	The Fixed Costs of Working and the Work/Leisure Tradeoff . . . . .	9
Figure 2.	How Children Six Years and Younger Are Cared For . . . . .	20
Figure 3.	Percentage Distribution of Respondents by Gender . . . . .	51
Figure 4.	Percentage Distribution of Respondents by Marital Status . . . . .	52
Figure 5.	Percentage Distribution of Respondents by Officer/Enlisted Status . . . . .	53
Figure 6.	Percentage Distribution of Respondents by Age Category . . . . .	54
Figure 7.	Percentage Distribution of Respondents by Racial/Ethnic Group . . . . .	55
Figure 8.	Percentage Distribution of Respondents by Paygrade . . . . .	57
Figure 9.	Percentage Distribution of Respondents by Educational Attainment . . . . .	58
Figure 10.	Percentage Distribution of Respondents by Spouse Employment and Officer/Enlisted Status . . . . .	60
Figure 11.	Percentage Distribution of Respondents by Spouse Employment and Command Type . . . . .	61
Figure 12.	Percentage Distribution of Respondents by Mode of Child Care Currently Used . . . . .	64
Figure 13.	Percentage of Respondents Who Reported Child Care-Related Work Interference by Command Type . . . . .	68

Figure 14.	Percentage of Respondents Who Reported "YES" to the Question: "Have Your Child Care Experiences Influenced Your Decision to Remain in the Navy?" . . . . .	69
Figure 15.	Percentage of Officer/Enlisted Respondents Who Reported That They Are More Likely to Stay in or Leave the Navy Because of Their Child Care Experiences . . . . .	70
Figure 16.	Percentage of Respondents by Command Type Who Reported That They Are More Likely to Stay in or Leave the Navy Because of Their Child Care Experiences . . . . .	71
Figure 17.	Significant Factors that Increase/Decrease the Probability That a Member Will Experience Child Care-Related Work Interference . . . . .	80
Figure 18.	Significant Factors That Increase/Decrease the Probability That a Member's Child Care Experiences Will Influence His/Her Decision to Remain in or Leave the Navy . . . . .	82

## **I. INTRODUCTION**

### **A. THE PROBLEM**

In recent years, the subject of caring for the children of working parents has captured the attention of the media, sociologists, psychologists, and policymakers. Touted as the primary labor issue of the 1990s, child care is still considered problematic and controversial. Not only does it present a major operating expense for employers, but society at large is in disagreement as to whether out-of-family care is even desirable. Critics warn that there may be hidden social costs in raising children outside of the traditional setting. Other questions have also been raised concerning the quality, quantity, and type of child care needed, as well as the role government should assume in regulating and subsidizing related programs.

Many of the employer's costs of providing child care programs are easily quantifiable, such as facility maintenance, staff salaries, equipment costs, and liability insurance. The cost of not providing some assistance to employees is twofold. For the worker, the cost equates to money taken from the family budget, time and stress involved in locating and maintaining child care arrangements, and the economic and personal consequences of one's lessened job productivity, including promotions, safety, and effectiveness. The cost for the employer is obviously the cost of implementing one or more types of child care assistance programs, plus the money, time, and labor lost by not solving a major personnel problem. Intangibles in the form of public opinion of the employer are at stake as well. [Ref. 1: p. 13]

The benefits to be derived from providing child care assistance are often quite easy to identify, according to many writers, but difficult to quantify. Dana Friedman,

for example, observes that most research into the benefits of child care have in fact looked at easily quantifiable aspects of work behavior that affect productivity such as recruitment, tardiness, turnover, morale, and stress, all of which are easier to measure than the often elusive components of productivity. [Ref. 2: p. 102]

Employers may choose not to address this important family issue and never realize what cost they incur by avoiding it. If a decision is made to assist parent-employees, employers may choose from a wide range of child care assistance programs, reflecting various levels of investment and involvement--from the low-or-no-cost information and referral service to the high-cost, on-site child care center.

The prudent decision maker would conduct a thorough, periodic "needs assessment" to ensure that current programs are meeting the demand for child care in the most cost-effective manner. The analysis must be based on the demographic characteristics of the current and future workforce and the quantity, quality, and suitability (in terms of matching work schedules and affordability) of community-based child care programs. Success of the newly implemented program depends on how well it "fills the gap" left by existing programs. It must meet the particular unmet needs of the parent-employee.

The composition of the U.S. workforce is changing dramatically. Manpower analysts predict that the military will be thrust into greater competition with other employers and institutions for the best employees of all socioeconomic categories. Regardless of the number and quality of workers sought to meet the nation's manpower needs, it is clear that both civilian and military employers will be forced to manage the workplace implications of widespread societal changes such as single parenthood and dual-career couples.

For the military employer, which traditionally has relied on a home-based spouse to maintain family stability in the absence of the military member, these issues pose

some unique challenges. The past 15 years have given rise to greater conflict between the military and the family due to increased proportions of married military men (especially in the junior enlisted ranks), active-duty women, dual-service couples, single parents (both male and female), and civilian spouses participating in the labor force. [Ref. 3: p. 24]

The military has always demanded a great deal of loyalty from its members. Now the family has become a stronger competitor for a larger portion of the military member's time and attention. Service members may be less able or willing to deploy, conduct exercises, or work shifts due to family obligations. In order to survive in this new social environment, the military workplace may have to adapt through cultural and structural change. Societal attitudes may change, as well, to equalize the burden-sharing of family responsibilities between the sexes.

#### **B. AREA OF RESEARCH**

This thesis investigates the possible impact of on-site child development centers on the productivity, morale, and retention of Naval officers and enlisted personnel. Information on these factors was gathered from active-duty Navy personnel assigned to eight military installations, four of which offer on-site child care and four of which do not. An effort was made to maintain similarity between the selected installations to enhance the basis for comparison. Consideration was given to the demographics of assigned personnel as well as to economic indicators of the local community. Information regarding alternative child care programs offered by the military or civilian community was also considered, since these may affect certain differences between installations in a parent's care arrangement choices and child care's effect on the parent's career.

### **C. SCOPE AND LIMITATIONS**

Recent trends are identified concerning the longstanding conflict between the military and the family. Current statistics are then presented that address the need for child care programs in both the civilian and military sectors. Economic theories are discussed of the effects of fringe benefits and fixed costs of working on the individual's decision to work. The findings of seven major studies (six from the civilian sector and one from the military) on the relationship between work and family responsibilities are reviewed and used to create a foundation for the thesis research.

After documentation of the survey methodology, this study identifies inter-command differences in perceived personnel productivity and morale, as measured by self-reported instances of work/family interference, and the effects of child care problems on the career plans of survey respondents.

This thesis does not attempt to explore the effects on service members of the cost or the quality of care provided. The adequacy of the quantity of child care provided (i.e., the capacity of existing facilities) is mentioned only briefly in the background discussion to substantiate the need for such services.

## **II. BACKGROUND/LITERATURE REVIEW**

### **A. THE ECONOMIC THEORY OF CHILD CARE**

Child care policies can be evaluated by using economic theories of how the fixed costs of working affect the decision to work, and the economic rationale for providing fringe benefits to employees. These theories are applicable in attracting the potential recruit and retaining the careerist since these people make economic choices to join or remain in the military. Working conditions, wages, and benefits must be equal or superior to those offered by competing employers to persuade the member to join or continue serving in the military. The military member thus weighs alternative opportunities just as any "employee" would; even in times of a draft, the military careerist is always a volunteer. [Ref. 4: p. 85]

#### **1. The Fixed Costs of Working**

Costs incurred strictly as a result of working can be expressed in terms of money and time. As the costs of transportation, commuting time, and child care services rise, current and potential workers will assess their economic opportunities and decide whether or not to work. [Ref. 5: p. 215] The focus of this section is on the parent-employee's fixed costs of obtaining child care and how the employer's provision of this benefit could affect the supply (i.e., retention) of valuable employees to the military, especially in the current environment of shrinking labor pools and declining population abilities.

Child care "costs" the parent-employee in at least two important ways: in the money spent for the care and in the time consumed to travel to and from the care facility. The monetary cost of child care may represent a significant percentage of the

family budget depending on the income level and marital status of the parent(s). While the cost may be negligible for a dual-career family, for a single parent it may affect every other financial decision, and possibly cause him or her to choose leisure over work or, having initially chosen to work, to drop out of the labor force altogether [Ref. 1: p. 13]. The time cost can be quantified by multiplying the time expended by the individual's wage rate. The logistics of transporting children to and from care facilities may present a formidable disincentive to work.

Apparently, child care expenses are relatively modest for the average worker. One of the reasons why many women, married or single, are able to work outside the home is because child care providers earn such low wages. If stricter regulations were imposed that required a standard pay and training for providers, many mothers could not afford to work outside the home. [Ref. 6: p. 566]

As the fixed costs of working increase, on the margin, the wage demanded by an individual to join the workforce, known as the reservation wage, rises. If a worker experiences an increase in the fixed costs of working, say, by acquiring a minor dependent, he or she may react to the increased reservation wage in two ways. The worker may desire an increase in the number of hours worked or may decide to drop out of (or not to join) the labor force. These two effects work in opposing directions so that, *a priori*, the net effect on total labor supply is ambiguous. In the case of the military, the desired increase in income could only be realized by "moonlighting," and the decision to drop out of the workforce equates to not enlisting initially or not remaining in the service once enlisted.

Similarly, the net effect of reducing fixed costs of working on the supply of labor is unclear: theoretically, providing subsidized child care services could reduce the desired number of work hours for some people and induce others to join the labor force



[Ref. 5: p. 217]. Presser and Baldwin's 1980 study found the latter to be dominant. Seventeen percent of mothers not employed or looking for work at the time of the study said that they **would** look for work if adequate, reasonably priced child care were made available to them. Additionally, 16 percent of employed mothers said they would work **more** hours if their fixed costs of working were reduced [Ref. 7: pp. 1202-1213]. Presser confirmed this pattern in a 1986 study of women shift workers: 19.1 percent of all part-time employed mothers of young children claimed they would increase their work hours if reasonably priced child care were readily available. It was also found that a greater proportion of non-day workers than day workers (28 percent and 16.6 percent, respectively) would work longer hours if child care services were provided at reasonable cost. These statistics suggest a high rate of underemployment of women associated with the unavailability of child care. [Ref. 8: p. 560]

The length of the work day is also constrained by these "fixed factors" of working. To better visualize the impact of time spent "getting prepared to work," Figure 1 shows that the time required to travel to and from a child care facility, depicted by segment ab, decreases a representative worker's available work day (including work and leisure time) from T to T1. [Ref. 5: pp. 218-219]

Starting at point b, two possible budget lines are depicted: bc represents a high wage rate and bh a lower wage. In equilibrium, the individual on budget line bc will work T1-L1 hours. However, if the individual's wage rate falls to bh, he or she will continue to move to successively lower utility levels and decrease the number of working hours per day until, at equilibrium point D, the individual reaches the point of indifference between working T1-L2 hours and point a, not working at all. It is known that fixed costs of working do set a minimum number of hours that people will work if they choose to work at all. Once the decision to work is made, however, the person must work sufficient hours to make the effort worthwhile, given child care costs.

Examining this model from a different perspective, if an employer provided a service such as subsidized on-site daycare, which effectively lowers the fixed costs of working, employees would be moved to increase their hours of work if all other factors in their working decision remained the same. This is depicted by reducing the fixed costs from segment af to segment ad, to segment ab, successively. Each time the fixed costs of working decrease, the employee, whose wage rate remains constant (represented by the slope of segment fg), moves to a higher utility level by working more hours. Note that the working day increases as one moves from equilibrium point C (T3-L4 hours) to point B (T2-L3 hours) to point A (T1-L1 hours) [Ref. 5: pp. 218-219]. It should be noted that in the case of the individual depicted in Figure 1, reducing fixed costs produces a net increase in work time. But, in general, this result depends on the individual's preference for work and leisure, which is reflected in the slope of the indifference curves.

## **2. The Economics of Fringe Benefits**

Over the years, industry has increasingly compensated employees in the form of fringe benefits instead of cash wages. The U.S. Chamber of Commerce reports that, in 1948, 86.7 percent of an employee's compensation was payment for time worked, as compared with only 73.2 percent in 1984. However, between 1948 and 1984, the portion of an employee's compensation considered miscellaneous fringe benefits, which would include child care benefits (i.e., other than pensions, insurance, legally required social security, and unemployment insurance), rose by only 0.7 percent [Ref. 5: p. 395]. Although economic theory holds that workers generally prefer cash payments for their labor (allowing them greater flexibility to purchase goods and services of their own choice), fringe benefits offer tax advantages to both the employer and the employee, which makes them quite attractive to many workers [Ref. 5: pp. 396-398]. The Child

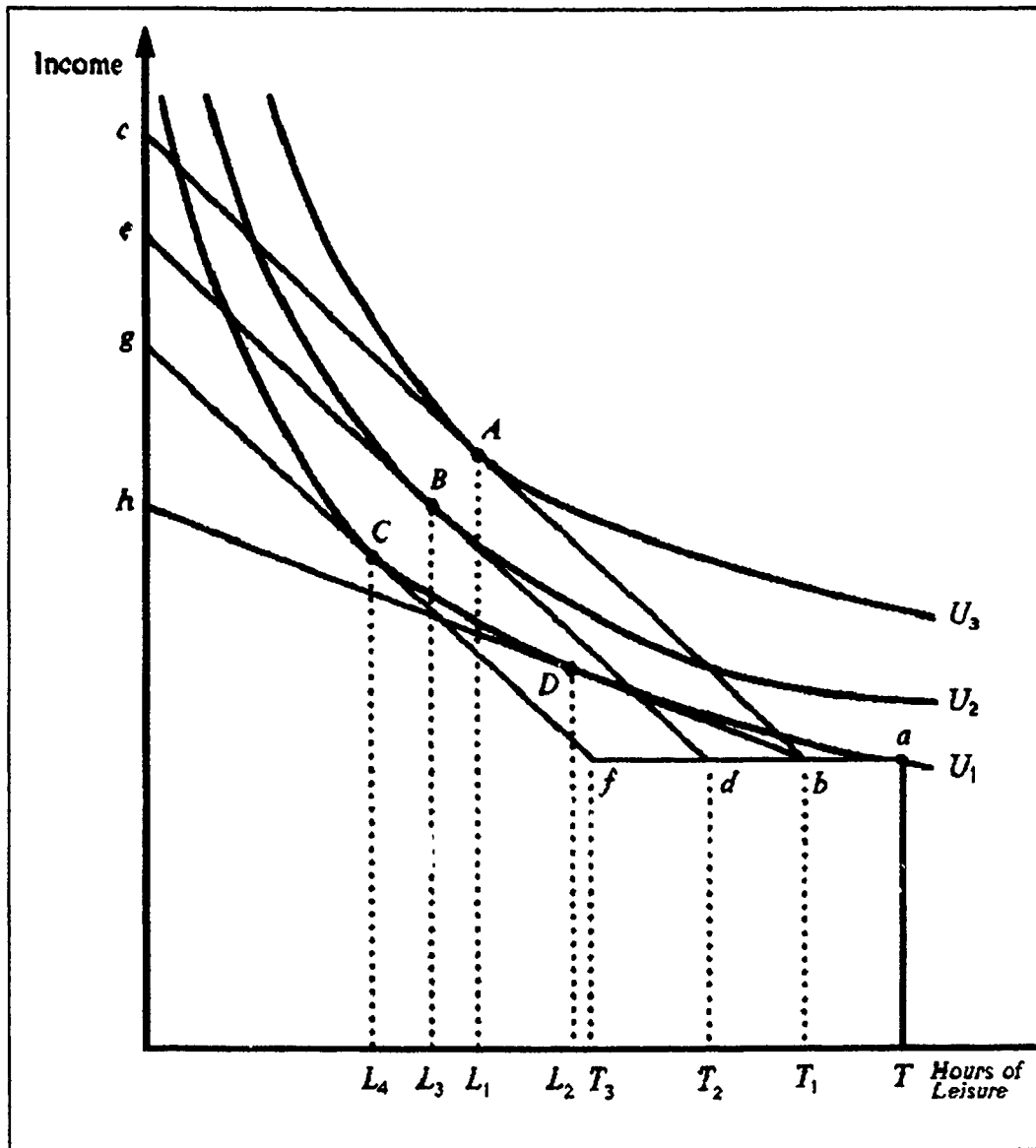


Figure 1. The Fixed Costs of Working and the Work/Leisure Tradeoff

Source: Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics*, Glenview, IL: Scott, Foresman and Company, 198), p. 218.

Care Tax Credit of 1981 declares these benefits to be non-taxable income. As a result, 67 percent of human resource executives polled by Harris in 1988 believed that child care benefits would become more common. However, for a variety of reasons (discussed

below), they foresaw greater use of alternative child care assistance rather than providing an on-site child care center. [Ref. 9: p. 290]

Fringe benefits can also be manipulated by the employer to attract job applicants with certain desirable characteristics. For example, a benefit package that offers dependent medical care, child care, and dental insurance would tend to be more attractive to young, married workers with families rather than to single persons. In this manner, a firm can increase its selectivity without violating discrimination statutes. [Ref.5: p. 400]

Many firms are concerned that adding a benefit such as child care, aimed at meeting the needs of the young family, would make employees without young children push for a matching benefit. The Families and Work Institute indicates that once a company has installed such a plan, it is no longer controversial, especially if the benefit is broad enough in scope to encompass many workers' needs (i.e., calling it "dependent care", covering elderly parents as well as young children). Note that employees accept other benefit differentials: a worker with a family receives more medical benefits than the single worker, for example [Ref. 10]. In response to such concerns about fairness, many firms have adopted a "cafeteria plan" for fringe benefits, whereby employees may select their own variety of fringe benefits up to a specified value [Ref. 5: p. 400]. This works particularly well for dual-career couples who wish to maximize their coverage by avoiding duplicate benefit plans.

### **3. THE FAMILY VERSUS THE MILITARY**

Child care is perhaps the most important family issue ever to demand the attention of employers, who, throughout history, have rarely become involved in domestic matters. Most employers, and particularly the military, have been in an adversarial relationship with the family institution. But with changing family roles for

men and women, increased labor force participation for women, and greater competition for a decreasing number of highly qualified workers, employers can no longer dismiss the role that the family assumes in recruiting, retention, morale, and productivity.

Since earliest recorded military history, there has been an inherent conflict between the military and the family. Although it is economically and logistically simpler to deal only with single military members, the reality is that sometime during one's lifetime, the vast majority of people are bound to develop personal relationships and acquire dependents [Ref. 11: p 1]. Thus, the family institution has become inextricably entwined with military manpower issues. At the same time, both the military and the family have been characterized as "greedy" institutions, "mak[ing] great demands of individuals in terms of commitment, loyalty, time, and energy [Ref 3.: p.9]." Conflict between the two has heightened in the past two decades, because military families are becoming greedier.

In the past, the family was expected to adapt to the military's greediness of the service member. However, recent changes in societal and family structures have made this adaptability more problematic [Ref. 3: p. 13]. Segal cites the rise in the proportion of married military men (especially in the enlisted ranks), an increased proportion of active-duty women, dual-service couples, single parents, and rising labor force participation of civilian spouses as sources of increased potential conflict [Ref. 24: p. 24].

In addition, the all-volunteer force has significantly changed the face of the military. Without a draft compelling young people to join, the military had to develop a more civilianized image and attitude to attract recruits, who were prone to view the military more as an "occupation" than an "institution." The axiom that the military

recruits individuals but must retain families is evidenced in the greater emphasis placed on military family support services.

### **1. High Proportion of Married Personnel**

The profile of the military enlistee today is young, fairly immature, and increasingly likely to be an ethnic minority. A high percentage of enlisted personnel are married (in 1989, 45 percent of enlisted personnel were married, with 30 percent reporting to have dependent children). Taken as a whole, they are less prepared to adapt and thrive in a military environment than previous generations. Additionally, in 1989, approximately 70 percent of officers were married, and almost 50 percent reported having dependent children. [Ref. 12]

### **2. Spousal Careers**

Civilian spouses pursuing careers are less mobile and flexible to respond to family-related crises than they were previously [Ref. 13: pp. 5-6]. Moving is detrimental to the spouse's employment opportunities and career progression, as each move brings a loss in seniority. Frequent moves lead to lower family income, and thus economic hardships for the family as well as identity and esteem problems for the spouse [Ref. 3: p. 18]. Segal explains how wives' careers can affect the military man:

I contend that the more wives resist the greediness of the family and participate in the work world, the greater will be the family demands on men. This increases the potential for conflict not only between husbands and wives, especially during the transition to greater equality between men and women at home and at work, but also between work and family demands for men, especially for those in greedy occupations such as the military. For instance, we can expect pressures...from wives on husbands to adapt their career decisions to family needs, including wives' career considerations. [Ref. 3: p. 15]

### **3. Active Duty Women and Dual Career Military Families**

Military women are less likely than their male counterparts to be married or have children. In March 1990, only 39 percent of all active-duty Navy women were married; yet, almost 60 percent of these married women had no children. Of the 61

percent of single active-duty Navy women, 89 percent were childless. In contrast, while 52 percent of all active-duty Navy men are married, approximately 32 percent of these married men are childless [Ref. 14]. More women in the military means more dual-career military families, which is an advantage for the military employer. These families have less conflict with the military: although collocated assignments may sometimes be difficult to arrange, it is generally easier to place a military couple in a single area than to coordinate a military assignment to accommodate a civilian spouse's position. Dual-service couples are also more likely to be committed to military life and possess a mutual understanding of their spouse's job requirements. [Ref. 3: p. 28]

#### **4. Single-Parent Families**

Approximately 12,000 active duty Navy members (or 2.1 percent of total active-duty Navy personnel) are single parents with children less than 13 years old. Approximately 6 percent of all Navy families with children are headed by single parents, as of September 1989 [Ref. 15]. The number of single parents has almost tripled since 1986, when Segal asserted that only 1 percent of Navy families (4,500 members) headed single families [Ref. 3: p. 29]. The family is even greedier in these cases, because there is no other parent to share family responsibilities [Ref. 3: p. 29]. The single parent may receive help from friends or relatives, but this source of assistance is complicated by the mobile nature of military service.

### **C. MUTUAL WORK/FAMILY INTERFERENCE**

Societal attitudes are changing as well as family structure. Years ago, the military was considered a way of life or a "calling," but the post-Vietnam era finds military members and prospective enlistees and officers viewing it more as an occupation or a job [Ref. 13: pp. 4-5]. As such, military members will be less likely to sacrifice family responsibilities at all costs and more likely to follow civilian employees' behavior and

attitude patterns. Segal maintains that society is searching for an entirely new set of normative patterns which will resolve the conflict between work and family. [Ref. 3: p. 12]

### **1. Workplace Implications of Placing Family Before Work**

Gallinsky and Hughes found in a 1988 study of dual-career civilian families that many parents place first priority on their families. About twice as many men and women said that work interfered with their family life than those who felt that their family life interfered with work. This manifests itself in the workplace in various ways: 21 percent of men and 27 percent of women surveyed had chosen a less demanding job to have more family time. Workers also claim to have refused promotion, transfer, and new jobs to preserve family time (30 percent of men and 26 percent of women) [Ref. 16: p. 123]. More drastically, a 1986 study of five Midwest technical companies found that a substantial percentage of parents of young children (47 percent of women and between 9 to 12 percent of men) had considered quitting their jobs because of family responsibilities, specifically, child care-related problems [Ref. 2: p. 109]. In view of such findings, employers must consider the human factor and productivity costs of not providing some form of child care assistance to their employees.

### **2. Reducing Work and Family Conflicts**

#### ***a. Workplace Adaptations***

Rarely in history have employers responded to employee's family concerns of any sort. Magid refers to "the spheres of work and family--which had grown almost as separate in the U.S. work ethic as church and state [Ref. 17: p. 9]." Some notable exceptions have been in times of national emergency, such as businesses' response to child care needs during times of heavy influx of immigrants, world war, or



during the Depression. Considered extraordinary relief measures, child care services were quickly disbanded when the crisis passed. [Ref. 17: p. 12]

The current demographic and sociological changes, however, are permanent, requiring permanent solutions. Whereas previous efforts did not try to change the structure of work, contemporary alternatives to meet the needs of parent-employees include structural changes in the workplace, such as the use of flextime, working at home, jobsharing, and parental leave. [Ref. 17: p. 13]

**b. *Family Adaptations***

Fundamental changes must also take place in family roles and burden-sharing among married couples. The presence of women in a previously "all-male world," such as the military, can change the social and interpersonal dynamics of the institution, and may necessitate adaptations within the organization. The family has traditionally been greedier for women than for men because women have tended to accept more responsibility for "home-making" and child care. However, since active-duty women are in no more control over their job assignment than are their male counterparts, they are unable to conform to the traditional family expectations. Thus, some of the institutional changes will have to come from within the family (perhaps become less greedy for women) as well as from the military [Ref. 3: p. 26]. The change in family roles and expectations will be gradual; as increasing numbers of women work, men will no longer have the luxury of a full-time home manager [Ref. 17: p. 10]. Husbands will have increasing family responsibilities and experience increasing conflict between their work and family roles unless adequate employer support, such as child care assistance, is available.

## **D. ESTABLISHING THE NEED FOR CHILD CARE SERVICES FOR PARENT-EMPLOYEES**

### **1. Societal Attitudes Refuted**

Underlying society's and management's reluctance to respond adequately to the child care needs of parent-employees are several deep-seated, but erroneous, beliefs about the current structure of the family institution and how childrearing is (or should be) accomplished. Four of the most fundamental beliefs cited by Gallinsky provide a framework for establishing the need for child care support for the labor force.

#### **a. Assumption: The Typical Family is the Traditional Family**

(1) *The American Family.* The "traditional" family--comprised of a working husband, a homemaker-wife and children--is vanishing. In fact, less than ten percent of all families in the United States fit this profile. The majority of families, 60 percent, are dual-earner families [Ref. 18: p.3]. Another 20 percent of American families are headed by a single parent, usually a woman; and the proportion of single-parent families is expected to grow by as much as 5 percent over the next decade. [Ref. 19: p. 45]

(2) *The Military Family: Focus On The Navy.* A large proportion of active-duty military personnel are married. For example, in the Navy, as of late 1989, 45 percent of enlisted personnel and 72 percent of officers were married. Of those families with dependents under age 13, single parenthood is much more prevalent among enlisted members: 7.2 percent of all enlisted personnel claiming a dependent under age 13 were single, in contrast to 2.4 percent of officers. Thirty percent of the total number of Navy single parents are women, relatively high considering the proportion of women in the Navy (about 10 percent). The remaining 70 percent

represent a substantial population: over 9,300 men head single-parent families, and approximately 8,400 of these have dependents under age 13. [Ref. 20]

In terms of establishing a demand for child care services for military employees, a total of 310,521 Navy dependents under age 13 were reported as of September 1989. Eighty-five percent of these dependents were claimed by enlisted personnel. [Ref. 20]

(3) *Impact of the Changing Family on the Workforce.* The changes in the structure of the family have profound implications for the workforce, and thus for employers. As family responsibilities become more evenly distributed between husband and wife, and more single parents must contend with their "greedy" families, employers will feel pressure to adopt policies that will help parent-employees of both sexes to balance home and work responsibilities.

The Bureau of the Census projects that the labor participation rate of young women will continue to increase approximately 2 percent by the year 2000, while that of young men will increase at a lesser rate (approximately 1.7 percent for 17-19 year old men and 0.7 percent for 20-24 year old men). [Ref. 19: p. 376]

Between 1970 and 1988, the labor force participation rate for married women increased by about 11 percent, for separated women, about 1 percent and for divorced women, about 4 percent. An even more dramatic increase occurred among women who had children under age 6: 26.8 percent for those who were married and about 7 percent for separated or divorced women [Ref. 19: p. 386]. This suggests that the need to care for their children has likewise increased.

Employers will find women representing a larger proportion of their labor pool. These women will tend to have higher levels of education and link their careers more closely to their identities, meaning they would be likely to work even

if it were not financially necessary. Eighty percent of all working women will probably become pregnant sometime during their career. They tend to have more closely-spaced families, started after their entry into the workforce; and they will most likely return to work within a year of childbirth rather than delay reentry by several years, as did their predecessors. [Ref. 18: p. 4]

Thus, employers of the 1990s can expect to hire increasing proportions of women, who historically balance work and family responsibilities, or men who are more involved with family concerns, either by virtue of having a working spouse, by single parenthood, or simply by choice. All of these factors will create a tremendous need for child care in the years ahead so that these working parents can be productive workers, free from the stress and distraction that unmet family needs often cause.

***b. Assumption: Women Should Stay at Home For Child Care***

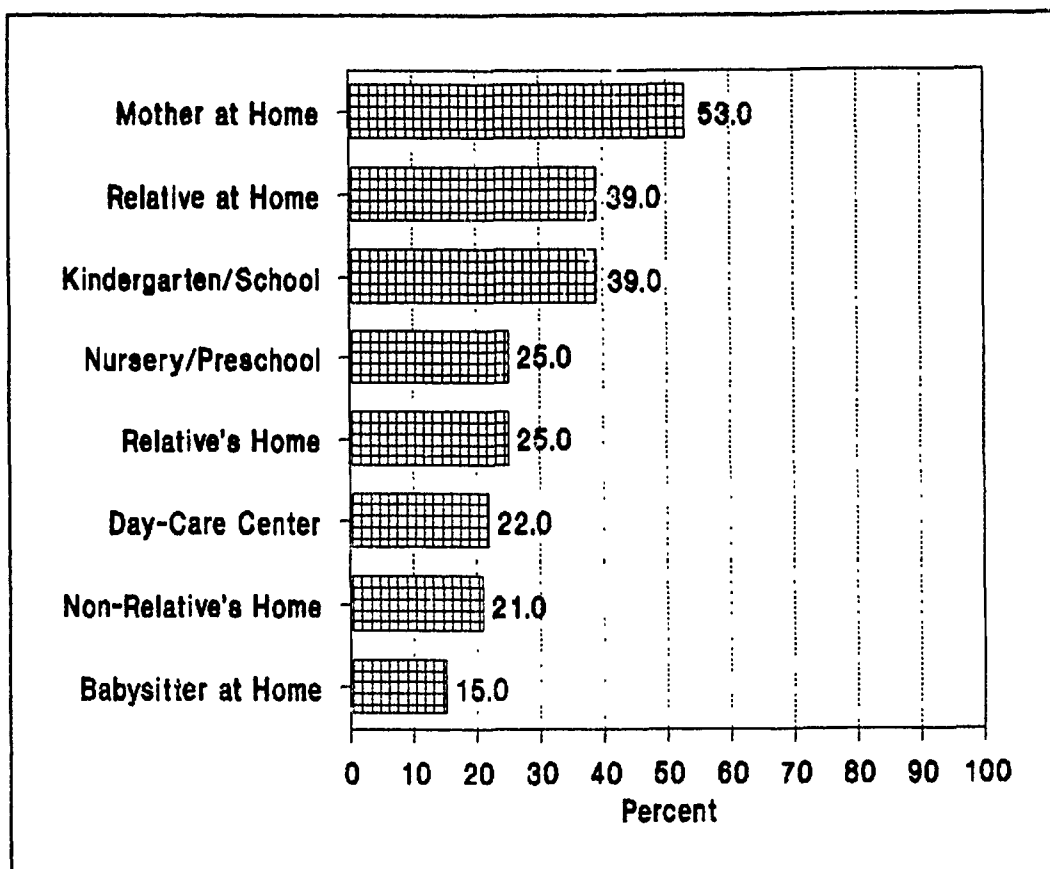
Women work for many reasons, ranging from self-fulfillment to economic necessity. Women who attain higher levels of education will be motivated to reap the benefits of their investment in themselves. Many women must supplement their husband's income to maintain an acceptable standard of living. According to Gallinsky's 1988 study, 50 percent of women were married to men who earned less than \$20,000 per year. Many more single women are providing sole support for their families. Indeed, about one out of three single mothers today do not receive their court-ordered child-support payments. [Ref. 21: p. 6 ff]

Clearly, many women are forced into the workplace by economic necessity even if they would prefer to rear their children at home. Others make an informed choice to pursue a career over domestic duties. The availability of adequate, affordable child care should not constrain either decision.

**c. Assumption: Friends and Relatives Provide Most Child Care**

(1) *Arrangements Preferred and Used By Civilian Parents.* One's choices for child care are defined by one's geographic location, income, hours of work, children's age, and special health circumstances. Care arrangements appear to vary with the employment status of the mother [Ref. 7: pp. 561-2]. Preferences for care arrangements are not always realizable due to cost or availability. The 1975 National Child Care Consumer's Study found that most parents prefer to arrange for child care in their own neighborhoods and many favor informal arrangements such as family day care homes [Ref. 17: p. 35]. The 1989 Philip Morris Family survey of 2,009 parents of young children (6 years old or less) and 2,041 childless adults, revealed that an overwhelming majority of parents (75 percent) prefer to have a relative caring for their children. However, fewer believed this to be a workable solution to child care needs, as more people, including the elderly, join the workforce. [Ref. 22: p. 12]

Statistics compiled between 1984 and 1985 on child care arrangements used by employed mothers of children under age 15 reveal that parents cannot consistently arrange for care by relatives. Approximately 40 percent of working mothers depend upon a relative for care of a child, but 28 percent have either chosen or must accept non-relative care. An additional 24 percent use organized child care facilities or rely on the hours of the school day. A small proportion (about 8 percent) of mothers can care for their children themselves while working, such as those that work at home [Ref. 19: p. 370]. The Philip Morris study found that most families relied on multiple care arrangements (i.e., 2 or 3 different arrangements during working hours), which can cause complications discussed in depth in section B.1.c.(3) in this chapter. Figure 2 presents the types of care arrangements reported by the surveyed population for children 6 years and younger [Ref. 22: p. 9].



**Figure 2: How Children Six Years And Younger Are Cared For**

Source: Philip Morris Companies, Inc., Family Survey II: Child Care, April 1989.

Results were slightly different in a 1988 study in which the surveyed population consisted of 405 employed parents in dual-earner households who had children under 12 years old. In this group, children under age 1 were more likely to be cared for, in order of preference, in a family day care home, by a non-relative in the child's home, by a relative in their own home, and a child development center. For children age 1-5, the child development center emerged as the first choice, followed by a family day care home and non-relative in the child's home. From age 6-12, "other" arrangements (which includes children who cared for themselves) is the primary choice,

followed by spouses who alternate work schedules and share child supervisory tasks [Ref. 16: p. 122].

This last category, the "latch-key child," is an area of considerable concern for many. A 1987 study revealed, for example, that 43 percent of employees in 2 major corporations ranked latch-key children as a major societal problem [Ref. 23: p. 54], and one that can be linked to increased juvenile delinquency, drug abuse, and teen pregnancy. A 1984 study by Burud suggests that the practice is fairly widespread among working parents: 46 percent of homes with children younger than 13 years old were found to provide no adult supervision for a good portion of the day. [Ref. 18: p. 5]

(2) *Arrangements Preferred and Used by Military Parents.* Relative care for military families would be even harder to sustain, given the mobile lifestyle. Military families are normally separated from the extended family and, because of frequent moves, they lack the support of an established neighborhood [Ref. 24: pp. 17-18]. Military-sponsored child development centers are a popular option among Navy parents. A 1989 General Accounting Office study of military child development programs reports that 68 percent of the parents of children attending military child development centers are married, 13 percent are dual-service couples, 11 percent are single, 5 percent are Department of Defense (DoD) civilians, and 2 percent are military retirees. [Ref. 24: p. 71]

As of February 1988, 62 stateside Navy on-site development centers were in operation with a capacity of 7,912 children [Ref. 24: p. 21]. Additionally, 264 family day care homes were in operation with a capacity for 1,486 children. (The Navy's program comprised only 6 percent of the total DoD family day care homes and capacity.) [Ref. 24: p. 26] A snapshot of enrollment in Navy centers taken in February

1988 showed 7,998 children signed up to attend (68 percent for full-time care and 32 percent for part-time care). [Ref. 24: p. 23]

At the same time, 8,377 children were on the waiting lists for stateside child development centers, (105 percent of the current enrollment),<sup>1</sup> 84 percent of whom wanted full-time care, 4 percent wanted part-time care, and 11.6 percent wanted preschool care. [Ref. 24: p. 73]

A sample of military parents whose children were on waiting lists for child development centers were interviewed to determine what characteristics of the military-sponsored facilities were most desirable. The location of the centers, lower cost, and quality higher than that offered by the civilian sector were cited by the majority of parents (58, 56 and 42 percent, respectively) [Ref. 24: p. 33]. Close to 60 percent of the parents on these waiting lists still wanted center care for their children, yet had to make alternate arrangements in the interim. Thirty-one percent of these parents had hired private baby-sitters outside of the child's home, and 27 percent had one of the two parents staying with the children, perhaps preventing the spouse from working. Some of the parents used multiple arrangements, such as combining baby-sitters with drop-in center care, having parental care with occasional baby-sitters, family day care homes, hourly center care, and staggered work schedules for parents. Only five percent had placed their children in privately-run centers, which indicates a strong preference among these parents for the military-sponsored facility over civilian facilities. [Ref. 24: p. 3]

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<sup>1</sup>Although 96 percent of the centers did regularly update their waiting lists, the need may not be accurately reflected. The need could be understated, such as in a small number of cases where institutions limited the number of children who could be on the list, or if discouraged parents choose not to place their child on a list. The need could be overstated in cases where children are on waiting lists of several facilities.



(3) *The Vulnerabilities of Multiple Care Arrangements.* The more complex the child care arrangements, the more vulnerable they are to breakdown: a sitter calls in sick, a child's after-school transportation doesn't arrive to take him or her to extended care, the child development center won't accept the mildly-ill child, and so on. A study of child care conducted by *Fortune* magazine in 1988 found that 40 percent of dual-career parents in the population had experienced at least one breakdown of child care arrangements in the last 3 months. Twenty-seven percent of the men and twenty-four percent of the women surveyed reported multiple breakdowns. [Ref.16: p. 121]

These breakdowns often cause unproductive time at work [Ref. 16: pp. 121-2]. In fact, 16 percent of the sample population reported being unproductive at work due to family problems. The *Fortune* study also found that child care breakdown was associated with stress-related physiological disorders, overeating, drinking, smoking, and tranquilizer use [Ref. 16: p. 132]. For example, 33 percent of parents who experienced a child care problem reported feeling nervous "often" or "very often" in the past 3 months. By comparison, just 17 percent of parents who did not experience a child care problem made the same claim. [Ref. 16: p. 122]

**d. Assumption: Child Care is Strictly a Woman's Issue**

Although the family is greedy for both men and women at certain transitional stages, such as at the time of a new marriage, at the birth of a child, or while contending with the turbulence of adolescence, the family has traditionally been greedier for women [Ref. 3: p. 14]. Evidence shows that this is slowly changing and that employers will find their male employees balancing greater home responsibilities with their work. As recently as 1984, advertising portrayed men as "providers"; now they are "doers" who share in family responsibilities [Ref. 25: p. 285]. A 1989 survey by the Philip Morris Corporation revealed that 93 percent of adults feel that women need help to

"provide loving care for their children yet remain productive members of the work force." However, a majority (83 percent) of adults also say that "men, too, need help, when women work while raising children." [Ref. 22: p. 8]

Perceptions may not accurately reflect societal practice. About 40 percent of female parents and 28 percent of male parents surveyed in 1987 felt that they shared child care responsibilities equally with their spouse. Yet, in practice, women continue to carry the majority of the child care burden, even when they work full-time outside the home. These women reported spending 10 hours more per week on child care than that spent by their husbands. The married men reported that their wives devoted twice as many hours toward child care than they did, even though 60 percent of these men had wives employed outside the home. [Ref. 23:p. 15]

In dual-earner households, the father provides child care in only a small number of cases. On the other hand, among households with women shift workers, the father becomes a major source of child care while the mother works [Ref. 26: pp. 876-879]. The motivation may be financial (to avoid having to pay a non-relative for child care), yet it also allows the father to spend more time with his children [Ref. 27: p. 552]. This trend has implications for military members whose ability to work shifts may be hindered by the child care needs of a working spouse. It is apparent that men are affected by the availability of child care facilities. Increasing numbers of men are taking paternity leave and heading single family homes [Ref.18: p. 4]. Interestingly, Segal states that among dual-service career couples, children were as likely to stay with their fathers as with their mothers if duty assignment necessitated family separation [Ref. 3: p. 28]. Magid found that in 1983, 10.6 percent of men (1.8 percent single and 8.8 percent married) used child care facilities. Burud notes that organizations supporting child care in 1982 had a predominantly female workforce (i.e., averaging 74 percent women); yet, 74 of the 415 companies studied (18 percent) reported that one-quarter of

the employees using the services were men. In addition, 30 of the companies reported 50 percent or greater participation by men [Ref. 18: p. 32]. Certainly, the usage rate among men has grown since then, considering the effects of increased labor force participation among women and the growth of single-parent homes headed by men. Growing evidence indicates that child care issues are not the sole concern of women, and that the morale and productivity of both women and men may be affected if adequate care programs are not available.

## **2. Management Attitudes and Corporate Response**

In general, employers have not responded enthusiastically to the child care needs of their employees. Newgren states that most corporations are not concerned about the problems of dual-career couples (nor, by implication, single parents), yet most acknowledge that failure to address two-career family issues--such as flexible personnel policies, sick and maternity/paternity leave, transfer policies which consider spousal employment assistance, and day care--may harm productivity and profits [Ref. 9: p. 287]. Burden and Googins found that a disproportionate number of married men with domestic wives occupied the high-salaried, upper-management positions, where child care benefit decisions are made. They elaborate:

In other words, the men making the management decisions and setting human resources policy for the workforce may have little first-hand knowledge of the lifestyles and multiple job/homelife responsibilities of the great majority of their employees. [Ref. 23: p. 12]

### **a. Employers' Child Care Program Options**

Employers have great latitude over the level, involvement, and control which they may exert over their child care benefits. A high control program, which best describes the military's child development center program, includes total development, staff hiring, and daily operational management. Less involvement would be needed if a professional child care company were contracted or if the employer formed a

consortium with other local employers to share costs and avoid the burden of developing a new program. A cooperative program also increases the number of participating families, which improves financing [Ref. 9: p. 179]. Burud elaborates on four basic types of employer child care programs, presented in increasing levels of investment: [Ref. 18: p. 99]

(1) *Flexible Personnel Policies.* Flextime, job sharing, and part-time work, all reduce the need for out-of-home care. Flexibility is important for working parents; even the best arrangements can break down if a child is sick, or has a medical appointment or a school visit. Parents who share child care with a spouse, relative, or friend, or use a child care center whose hours may not fit the typical work day hours, must have the flexibility to schedule their work hours. [Ref. 18: p. 105-107]

(2) *Information and Referral Programs.* A general program may include a checklist of desirable program features to help parents be informed consumers in selecting suitable care or provide a list of local programs, although employers must be cautious about implied endorsement of these programs. A more specific program may actually match family needs with providers who have openings and follow up with parents to ensure that they find adequate care in a reasonable amount of time. These services can be run by in-house staff or contracted out to an existing child care information and referral agency. Alternatively, an employer may help finance a community-wide service in cooperation with other local employers. [Ref. 18: p. 115]

Parental education and support activities have also proved popular in the civilian sector. [Ref. 18: pp. 111-112] Many parents are separated from their traditional support networks of neighbors, friends, and relatives. Sometimes they are devoid of role models, unable to observe how others raise their children. Coupled with

the rise in divorce and remarriage, parents need relief from the stress and isolationism a working parent may feel and bring to the workplace. [Ref. 18: p. 121]

(3) *Financial Assistance.* To lower the employees' cost of child care, employers can reimburse employees for the cost (in part or in full) of care of the employees' own choosing. Voucher systems, purchasing slots at existing child care centers or making corporate contributions to community care facilities are workable alternatives. [Ref. 17: p. 35]

(4) *Direct Services.* Child development centers may be company managed or contracted out. Since the on-site center is the most expensive of the child care options, a careful, periodic needs assessment must be made to ensure cost-effectiveness of the program. The supply of child care services in the local community has a direct effect on the success of an employer-provided service. Redundancy in services may lead to underutilization. A program that meets an *unmet* need is more valuable. If an existing community program can be adjusted slightly to better match employees' needs, no new center would be required. [Ref. 18: pp. 102-103]

Youth center programs are an extension of the military's child development center network which meets much of the after-school, weekend, and vacation supervision needs of schoolage children. In the civilian community, similar programs may be offered by the Boy's Club, the YMCA, or community centers.

Another popular, less expensive, and generally more flexible form of direct services is the family day care home. These services, if offered on government property, are supposed to be licensed by the state, and run under the military's Family Home Care program. However, family day care homes located in the local community are often unlicensed and unregulated. If employees are spread over a large geographic

area, an employer may find a single site center too difficult to locate. Parents may prefer a home setting for their children, especially if they are infants. This type of care is often easier to find close to one's own home, and children can make neighborhood friends. This setting is also better for children with special needs or who function better in small groups. The flexibility of the family day care home is well-suited for the extended care needs of school-aged children, families with children of varying ages, and parents with long or unpredictable work hours [Ref. 18: p. 180]. In addition, some of the unique needs of military employees can be better met by family home care programs, which may provide services that are generally not offered by child development centers (including weekend care, night care, extended period care, and care for sick children). [Ref. 24: p. 20]

**b. *Availability of Employee-Sponsored Child Care***

(1) *Civilian Sector.* One of the earliest efforts to measure employer response to child care needs in the workforce was a study by Magid in 1983. This study included an exhaustive search of U.S. businesses, identifying just 504 organizations which offered employee child care assistance. Of the 204 respondents to the 1983 survey, 52 percent were health care facilities, 43 percent were in the manufacturing or service industry, 4 percent were government agencies, and 1 percent were labor unions. (Military and education-sponsored programs were excluded from the survey.) [Ref. 17: p. 28] The size of the organization was not a determining factor: programs were established in companies with fewer than 150 or greater than 20,000 employees. [Ref. 17: p. 31]

Not surprisingly, on-site child care centers were the most common approach among these earlier programs, with 69 percent of the respondents providing a center within four miles of the worksite. Twenty-seven of the companies had banded

with a group of employers to support a center [Ref. 17: p. 34]. These organizations often offered more than one program option: 55 percent used flexible personnel policies, 50 percent provided information and referral services, 23 percent offered extended care for school-aged children, 18 percent offered working parent seminars, and 6 percent offered "cafeteria-style" benefit packages which included child care. [Ref. 17: p. 36]

The growth in the number of employer-sponsored programs during the 1980s has been dramatic, but nonetheless insufficient to meet the burgeoning need. As of 1985, approximately 1,800 of 6 million businesses offered some form of child care assistance. Only 29 percent of these businesses (120 corporations and 400 hospitals) provided on-or near-site child care facilities. The majority helped families find and pay for care through alternate means [Ref. 7: p. 566]. By 1988, an estimated 3,700 organizations offered child care assistance. Of these, 1,500 offered financial assistance, 1,600 provided information and referral services and used flexible personnel policies, and 600 provided child care facilities [Ref. 28: p. 167]. While the worksite child care centers get most of the attention, they are fairly rare; most of these 600 programs are sponsored by hospitals or government agencies. [Ref. 28: p. 178]

The small number of employer-sponsored child care facilities is not surprising, given the prohibitive costs, the legal risks involved, and wide range of effective alternatives. On-site child care centers may not be the best solution for many companies; as highly specialized operations, they are expensive to open and operate, difficult to manage, and may not suit the employees' needs or preferences. [Ref. 28: p. 180]

The general public, parents and non-parents alike, expressed strong opinions in the 1989 Philip Morris survey about what role employers should assume regarding child care. Eighty-nine percent said employers should adopt flex-time, part-time work schedules, and job-sharing among mothers of new children. Eighty-seven

percent felt there should be a joint effort between private employers and the government (local, state, and federal levels) to meet the nation's child care needs. Eighty percent believed that employers should be encouraged to help develop joint community care centers, financed and run jointly by the public and private sectors. Seventy-eight percent said that employers should be encouraged to provide emergency child care services when their own on-site child care services break down. [Ref. 22: p. 20]

Flexible hours were mentioned most often as a means of easing work and family stress among the employees surveyed in a 1987 study by Burden and Googins. Although day care benefits ranked third as a means of easing work/family conflict (after increasing company attention to work/family conflict), these benefits (to include on-site programs, voucher systems, contracting to off-site centers, cash and cafeteria benefit packages) were first on a list of recommended policies that would make parents' lives. [Ref. 23: pp. 51 53]

Civilian sector child care facilities are often unsuitable for the military population. The Department of Defense formally acknowledges that military families often face special problems that are not always met by private sector child care programs. For example, they may be inconveniently located, unable to provide care for infants and toddlers, or unable to provide night and weekend care often necessitated by the unusual working hours of a service member. Moreover, they are generally higher in cost than military-sponsored child care services. [Ref. 24: p. 21]

(2) *Military Sector.* As of February 1988, 62 Navy stateside on-site development centers were in operation with a capacity of 7,912 children. [Ref. 24: p. 26] Additionally, 264 family daycare homes were in operation with a capacity for 1,486 children. (The Navy's program comprised only 6 percent of the total DoD family daycare homes and capacity.) [Ref. 24: p. 26]



Special child care services were being offered, generally through the family home care program, to meet the unusual needs of military service members. Of all stateside Navy installations with child care programs, 92 percent offered night care, 75 percent offered weekend care, 50 percent offered both extended 24-hour care and care for mildly-ill children, and 33 percent had programs for children with special needs. [Ref. 24: p. 27]

Less formalized care was available through youth activity programs (specifically, before and after school supervision of school children and vacation camp programs), chapels, parent cooperatives, and officer wives' clubs. [Ref. 24: p. 20]

Congress is placing a high priority on expanding and improving military child care programs, as evidenced in the Military Child Care Act of 1989. The Navy will receive a five million dollar increase for child development center operating expenses for fiscal 1990. Family home care programs will get a 1.3 million dollar increase. [Ref. 29: p. 249] The Secretary of Defense was also directed to give priority to increasing the number of child care employees (approximately 750 General Schedule billets will be created in the Navy by fiscal 1991) [Ref. 30: p. 252] and expanding the availability of child care for service members.

The military is addressing the most salient issues of child care. Low pay, high turnover, and spouse displacement plague civilian sector enterprises. Yet, the Secretary of Defense is directed to increase child care providers' compensation and grant hiring preference to military spouses in a two-year test program to determine whether these initiatives will improve the quality of care, lower turnover rates, or offset the negative effects that relocation can have on a spouse's work opportunities [Ref. 29: pp. 251-252] Concerned with providing a high quality of care, the Secretary of Defense is to ensure that all child care providers complete a comprehensive training program within six months of being hired. [Ref. 29: pp. 250-251] In addition, the Act

stipulates that fifty military child development centers be accredited by an appropriate national early childhood program accrediting body, to serve as models for other child development center and family home care providers. [Ref. 29: p. 255] Clearly, military service members and DoD civilians are availed of a benefit which is not only better regulated, but superior in many ways over what the civilian sector has to offer.

### **3. The Costs of Providing Child Care Programs**

#### ***a. Monetary Costs***

Employer-supported child care assistance can take many forms, which span a wide range of investment requirements. After the initial investment in a needs assessment study, the employer must decide whether a program is warranted. If a need is established, the program may be designed to include one or more features. The least capital and labor intensive is an information and referral service, which would require part-time staffing and no extra facilities. A worksite parent support and education group may require remuneration of guest speakers. Contracting with a nearby civilian child care facility for space, offering a voucher program, or child care reimbursement incurs easily quantifiable expenses. After school and summer activities incur expenses for facility procurement and maintenance, staff salaries, equipment, and liability insurance. The biggest investment is an on-site center, which may be run by the company itself or contracted out. These programs require many of the same expenses as summer programs plus staff training costs and a high level of company commitment. In fact, employers may find that the cost of an on-site center is prohibitive, but that should not discourage them from implementing alternative programs (which may be equally effective and less expensive) or from investigating other ways of financing the programs [Ref. 17: p. 35]. Some companies have entered a consortium to share the costs

of providing an on-site center with the added benefit of an increased clientele, which enhances the center's financial strength.

**b. Human Factor Costs**

(1) *Concern About Competitiveness.* Several studies have attempted to measure the types and prevalence of work interference that is caused by family problems. Over one-half of the respondents to a 1989 survey by the U.S. General Accounting Office (GAO) reported that they experienced child care-related work problems. One-quarter of the respondents believed their work productivity, or that of their spouse, had also been affected. [Ref. 24: p. 33]

A survey by Philip Morris in 1989 revealed that overall, 12 percent of workers are reluctant to admit to their employers that they need assistance with child care matters. This percentage rises substantially as one focuses on single parents, low income parents, and minorities [Ref. 22: p. 18]. These people wish to keep their child care concerns from their supervisors for fear that they will not be considered serious employees and therefore may miss opportunities for a raise or promotion. [Ref. 1: p. 3]

Although one-third of the surveyed parents felt their promotability was lessened because of work time lost due to caring for their children, the figure nears 40 percent for young and minority parents and 50 percent for low-income parents. [Ref. 22: p. 18]

From another perspective, a 1987 study of two large corporations by Burden and Googins showed that 71 percent of men and 54 percent of women felt that family responsibilities adversely affected their ability to advance in the company. [Ref. 23: p. 48]

(2) *Stress and Worry About Children.* It was found that men are as likely as women to experience a lot of stress in balancing their home and work responsibilities [Ref. 23: p. 25]. Much of this could be attributed to unstable or inadequate child care arrangements. This stress can manifest itself in myriad ways: stress-related psychological disorders, overeating, drinking, smoking, and tranquilizer use. [Ref. 16: p. 132]

(3) *Absenteeism.* Gallinsky's 1988 study of dual-career couples (with children under 12 years old) found that almost one-half had missed work more than once in the past three months, and that over half of all absenteeism was family-related. Almost 40 percent of the parents came to work late or went home early at least once in the past three months, and a large majority of these instances were because of family obligations. At the same time, one-fourth of the military members surveyed by GAO in 1989 said they or their spouses were tardy from work or absent completely due to child care problems. [Ref. 24: p. 33]

Absenteeism rates were higher among women than among men, regardless of whether they were married or single. This may reflect the fact that women assume much more of the burden of staying home with sick children. Consequently, male parents (married and, surprisingly, also single) have the lowest absenteeism rate of all marital-parental groups [Ref. 23: p. 40]. Burden and Googins comment on the career effects of this phenomenon:

This family decision enables male parents to have low absenteeism rates at the cost of high absenteeism rates for women parents....Parent employees, particularly men, agree that family responsibilities have a negative impact on career advancement. Increased absenteeism of women parents may be one of the components of this perceived outcome. [Ref. 23: p. 43]

(4) *Consequences of Lack of Care Facilities.* Because of a lack of adequate child care arrangements, over 40 percent of the employees surveyed by Burden and Googins reported that they had to bring their children to the worksite during work hours and almost half had brought them during non-work hours. Most of them said it happened several times during the year. The alternative to this practice would, of course, be increased worker absence or to leave the children home unattended, at the cost of increased parental worry and stress. [Ref. 23:p. 25]

Almost 30 percent of the military respondents to the GAO study reported financial hardship because of the unavailability of military-sponsored child care facilities. [Ref. 24: p. 33]

*c. Previous Cost-Benefit Analysis*

Conducting a cost-benefit analysis of child care programs is problematic, in that corporations do not systematically keep records that would capture the change in worker productivity that may occur after implementing a child care assistance program. Place and Wise state that since many employees are reluctant to report how many hours they have taken off from work and how much work time is spent coping with child care concerns, it is difficult to accurately assess the costs of not providing assistance. As a result, previous studies have had to rely on managers' perceptions and data on other aspects of worker behavior that may be linked to productivity. Dana Friedman elaborates:

In the absence of sound, empirical research to substantiate the positive effects of work-family programs, corporate testimonials play an important role. Assertions by companies with child care programs, for instance, are not usually based on any research, but on the subjective impressions of program managers....Most managers seek data on the direct productivity effects of family problems and programs. However, most of the research has produced data on other aspects of work behavior that affect the bottom line, such as recruitment, absenteeism, tardiness, turnover, morale and stress. These factors relate to intermediate changes that must occur if there is to be an increase in productivity. [Ref. 2: p. 102]

Regardless of whether the studies can measure all factors that define productivity, Collins, et al., assert that the question managers should ask is no longer "How much will it cost my company?"; but rather, "Can I afford NOT to have some type of child care program at my company?" [Ref. 1: p. 16] Corporate leaders acknowledge that their employees are currently managing their child care needs, but that working parents believe they could balance home and work responsibilities better and be more productive if employer support systems were available. [Ref. 1: p. 3]

Companies that have implemented programs feel strongly that the benefits have outweighed the costs. Magid's 1983 study of 204 organizations offering child care programs revealed that 75 percent of the respondents felt the benefits equaled or exceeded the costs [Ref. 17: p. 39]. Burud's 1984 study indicated that 95 percent of the companies that had data on the costs and benefits of their programs also said the benefits outweighed the costs [Ref. 18: p. 253]. These companies cite the following benefits to offering child care services: less absenteeism among parent-employees, greater stability and loyalty among these workers, improved morale, enhancement of the organization's image to workers and the community, improved recruitment and retention of quality personnel, less distraction and worry among employees during the work day, quicker return of valuable employees from maternity leave, and excellent public relations. [Ref. 17: p. 39]

Burud's study compiled the following valuable data about many of the reported positive benefits among employer respondents.

(1) *Turnover.* Two-thirds of the companies reported that child care programs reduced turnover rates. Over 60 percent said the programs were more effective than half of the other turnover control methods in use. [Ref. 18: p. 22]

Eighteen of the respondent companies had records to compare their child care program users' turnover rates to those of other employees. The program participants' rates were 25 percent lower than that of the overall workforce. Savings reported in four case studies of turnover costs ranged from \$25,000 to over \$2 million. [Ref. 18: pp. 22-23]

Almost 70 percent of the 691 parent employees surveyed at these companies felt that the child care program had a positive effect on turnover. [Ref. 18: p. 268]

(2) *Recruitment.* Overall, 85 percent of respondents reported that child care programs had a positive effect on recruitment. Among these, over 70 percent felt these programs were more effective than half of the other recruiting efforts they used. In two case studies, one company was able to reduce its recruitment effort by 80 percent after establishing a child care program. Another company reported that 95 percent of its job applicants were drawn because of the child care program [Ref. 18: p. 23]. Results of this magnitude must be uncommon, or the particular industries were targeting employees who were more likely to have young children.

Of the parent-employees surveyed, 38 percent felt that the program had a positive effect on their company's recruitment programs. As a result, over one-half of the parent-employees said they had recommended their company to others as a good employer. [Ref. 18: p. 268]

(3) *Morale.* Nine out of 10 companies said that child care programs had a positive impact on morale. More specifically, 63 percent, 73 percent, and 83 percent of the companies reported positive effects on worker motivation, commitment, and satisfaction, respectively. [Ref. 18: p. 24]

Almost two-thirds of the surveyed parent-employees reported that their attitudes and morale were positively affected by their company's child care programs. [Ref. 18: p. 268]

(4) *Public Image.* More than four out of every five companies felt their child care programs help their public relations efforts. Over two-thirds said that their child care program was more effective than half of other public relations techniques they used. The average value of the publicity these companies were receiving as a result of their programs was assessed at \$13,000 annually. One corporation estimated the value of their exposure to be \$30,000 annually, as they were featured in national magazines, newspapers, radio, and television. [Ref. 18: pp. 24-25]

(5) *Productivity.* One-half of the surveyed companies said that their child care programs had an effect on productivity. In one case, a company was able to reduce its production workers between 15 to 25 percent in 1981. Two-fifths of the corporations ranked child care in the top 40 percent of all benefits that affect productivity. Over ten percent of this group ranked child care in the top 20 percent of such benefits. [Ref. 18: p. 25]

Over ten percent of surveyed parent employees said they were able to accept a promotion or a career-enhancing job change as a result of child care assistance programs. Two out of five reported better work performance and said they were more available to work unusual hours (shifts or overtime) because of the added flexibility of an employer-sponsored program. [Ref. 18: p. 268]

(6) *Absenteeism.* A majority of companies reported that their child care programs were more effective than half of other absenteeism controls in use. One company reported their absenteeism rate among child care program users dropped from 6 percent to 1 percent during the first year of the program, while absenteeism among



other employees remained at 4 percent. Thirty-nine percent of the companies reported that their programs reduced tardiness as well. While child care has the greatest impact on reducing unscheduled absences, it can also influence long-term absences, such as during convalescence from childhood illnesses, school vacations, or in limiting the length of maternity leave. [Ref.18: pp 26, 59]

### III. METHODOLOGY

#### A. SELECTION OF SURVEY POPULATION

Many statistics gathered on child care focus on children age 12 or younger; generally these children should not be unsupervised for extended periods. To maintain comparability, the author chose to survey U.S. Navy personnel who claimed to have a dependent in this age group. Surveys from commands with on-site child development centers were compared to those from commands without on-site centers to isolate the effect that military-sponsored on-site child development facilities may have on perceived morale, productivity, and retention.

Military child development centers are operated as part of the Morale, Welfare, and Recreation (MWR) Program, under the direction of Commander, Naval Military Personnel Command (NMPC-65). An annotated list of all U.S.-based Naval facilities participating in MWR activities was obtained from NMPC-65, which identified commands that had on-site centers. Four pairs of commands (matching installations with and without an on-site child development center) were suggested by NMPC-65 for study.

An attempt was made to select commands that were similar in most major respects, including the command's mission, characteristics of assigned military personnel, size of local community, and area cost of living index. The measures used for comparing the four pairs of commands are presented in Appendix A.

No two installations will be perfectly matched; thus, each pair of command comparisons had strengths and weaknesses. In general, however, three of the four pairs were similar in most major respects.

Some commands had very small target populations, which might have produced insufficient sample sizes and hindered statistical analysis. After consulting with Dr. Jules Borack, a mathematical statistician at the Navy Personnel Research and Development Center (NPRDC), the author decided to survey all eight commands and pool the data into two categories, commands with on-site child development centers and commands without on-site centers. Any bias that may arise from pooling is outweighed by having larger sample sizes with which to test statistical differences in perceived morale, productivity, and retention.

The eight commands surveyed were:

1. Naval Communication Unit (NCU), Washington, Cheltenham, Maryland
2. Naval Communications Area Master Station, Eastern Pacific (NAVCAMS EASTPAC), Honolulu, Hawaii
3. Naval Surface Weapon Center (NSWC), Dahlgren, Virginia
4. Naval Air Development Center (NADC), Warminster, Pennsylvania
5. Naval Postgraduate School (NPS), Monterey, California
6. Naval District Washington (NDW), Washington Navy Yard, Washington, D.C.
7. Naval Weapons Station (NWS), Yorktown, Virginia
8. Naval Weapons Station (NWS) Earle, Colts Neck, New Jersey

The survey population was obtained through the Defense Manpower Data Center (DMDC) in Monterey, California. Files of personnel assigned to the eight commands (as of December 1989) were matched with Defense Enrollment Eligibility Reporting System (DEERS) files to determine how many personnel declared dependents under age 13.

## **B. CREATION AND DISTRIBUTION OF THE SURVEY**

The survey questions were pretested during three separate administrations on small groups (approximately 10 each) of students at the Naval Postgraduate School, who qualified to be in the survey population. Their suggestions were incorporated as deemed appropriate. A draft copy of the survey was also submitted to NMPC-65 and the Office of the Deputy Assistant Secretary of the Navy (Force Support and Families) for review and comment. The final version of the survey is presented in Appendix B.

The author contacted the Executive Officers of each command by telephone to explain the nature of the survey and to request their participation and designation of a command project officer to receive, distribute, and collect the surveys. All commands designated a project officer to receive and distribute the surveys. Six of seven commands agreed to collect and return the surveys by bulk mailing. One command requested that surveys be returned by individual mailing. The author acted as project officer for survey respondents at the Naval Postgraduate School. A form letter, presented in Appendix C, was sent to each of the command project officers with instructions on administration of the survey.

The questionnaires were designed to be completely anonymous for the privacy of respondents; therefore, they were neither coded nor numbered. Surveys were individually packaged and addressed to those identified as having a dependent under age 13 as of December 1989. Return envelopes, addressed to the project officer, were provided. Completed surveys were returned, individually sealed, to the author. Project officers were directed to return all undeliverable surveys (due to transfer, discharge, or long-term temporary additional duty) to the author, so return rates could be accurately computed.

Response rates are shown in Table I below:

**TABLE I.  
NUMBER OF SURVEYS**

	(A) Mailed	(B) Undeliverable	(C) Completed and returned	(D) Response rate (percent)*
<b>COMMANDS WITH ON-SITE CENTERS</b>				
NSWC DAHLGREN VA	37	7	18	60.0
NAVCAMS EASTPAC	149	15	66	49.3
NWS YORKTOWN VA	147	30	96	82.1
NPS MONTEREY CA	509	5	316	62.7
<b>COMMANDS WITHOUT ON-SITE CENTERS</b>				
NADC WARMINSTER PA	121	12	68	62.4
NAVDIST WASHINGTON DC	84	15	41	59.4
NCU WASHINGTON DC	32	1	28	90.0
NWS EARLE, COLTS NECK NJ	103	17	82	95.3

\*Return rates were calculated by dividing the number of completed and returned surveys, (C), by the number of surveys assumed to have been received, (A) minus (B).

Once returned, the questionnaires were stamped with the unit identification code of the originating command (the only identifying mark) and entered into a personal computer data base (using DBASE III). The data base was transferred to the Naval Postgraduate School mainframe computer for further analysis using the SAS statistical program. The SAS program code is presented in Appendix D.

### C. STATISTICAL ANALYSIS PROCEDURES USED

To analyze the data, cross-tabulations were created on the demographics (including sex, race, age category, marital status, education level, and officer/enlisted status) of the respondents by command type (those with on-site care and those without on-site care).

Since family income greatly influences the types and quality of care a parent can afford, married personnel at all commands were asked if their spouses worked, whether such work was full-time or part-time, and an approximate gross income level for calendar year 1989.

A profile of the numbers of children in each age category and types of child care currently used were compiled by command type to see whether parent-employees prefer group care to individual care settings. The current preferences of respondents, combined with the unmet needs (indicated by waiting lists for existing on-site facilities), are important for establishing demand for child development centers versus other types of care.

A proportion was calculated of active-duty parents who actually used the on-site child development centers available to them. Reasons for not using the centers were tabulated. Proportions of personnel were computed who had experienced some form of work interference due to child care problems. The nature of the interference was sorted by marital status and command type. Respondents who had access to an on-site child development center were asked if the center relieved any of their child care-related work problems or stresses. Percentages of personnel on bases without on-site facilities who felt a child care center would relieve some of their stresses were contrasted with those who felt it would not do so.

Numbers of personnel were tabulated who stated that their child care experiences had influenced their retention decision in some way. The nature of that influence

(either positive or negative) was examined by marital status, officer/enlisted status, and command category.

Since one of the least expensive forms of child care assistance is the information and referral service, numbers of personnel at all commands were tallied regarding their awareness of the services offered at their base and their use of such services.

### **1. Testing Whether Child Care Problems Influence Retention**

All statistical tests were conducted separately with and without data gathered from the Naval Postgraduate School to eliminate any bias that may arise from the unique characteristics of the personnel assigned to this particular command. The NPS survey population was very large (315 people)--96 percent of whom were officers, and primarily men with homemaker-wives. Results are presented together for ease of comparison.

#### ***a. Crosstabs***

The measurements obtained from individual member questionnaires were qualitative by nature, resulting in nominal scale data. Proportions of personnel were computed in each command who indicated that their retention decision (meaning their decision to either leave or continue active duty service) was in some way influenced by their child care experiences. This condition was considered a "success" for statistical testing purposes in the context of this thesis. For those who reported that child care issues influenced their career decision, proportions were calculated of those who reported that they were more likely to stay on active duty (i.e., child care experiences had a positive influence) and those that said they were more likely to leave active duty (i.e., child care experiences had a negative influence). To determine whether the proportions differed significantly between the two command types (commands with

and commands without on-site child development centers), the parameter  $(p_1 - p_2)$  was put into the following hypothesis tests [Ref. 31: pp. 236, 356-362]:

- Test (1):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) \neq 0$
- Test (2):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) > 0$
- Test (3):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) < 0$

The test statistic,  $z$ , was calculated as follows:

$$z = \frac{(\hat{p}_1 - \hat{p}_2) - (p_1 - p_2)}{\sqrt{\hat{p}\hat{q}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where  $\hat{p}_1$  = the proportion of respondents assigned to commands without on-site child development centers who responded in a certain way, or the sample's proportion of "successes" for statistical testing purposes.

$\hat{p}_2$  = the proportion of respondents assigned to commands with on-site child development centers who responded in a certain way, or the sample's proportion of "successes" for statistical testing purposes.

$p_1$  = the population parameter to be tested for the sample population assigned to commands without on-site child development centers, which is best estimated by  $\hat{p}_1$ .

$p_2$  = the population parameter to be tested for the sample population assigned to commands with on-site child development centers, which is best estimated by  $\hat{p}_2$ .

$\hat{p}$  = the proportion of personnel in the entire sample population who responded in a certain way, or the total proportion of "successes" for statistical testing.

$\hat{q}$  = the proportion of "failures" for the total sample population, or  $(1 - \hat{p})$ .

$n_1$  = the number of observations (respondents) assigned to commands without on-site child development centers who responded to the question being studied.



$n_2$  = the number of observations (respondents) assigned to commands with on-site child development centers who responded to the question being studied.

Note: If the test was designed to test differences between other personnel characteristics,  $p_1$  and  $p_2$  would apply, respectively, to enlisted personnel and officers, singles or married personnel, or men and women.

At the 5 percent significance level ( $\alpha = .05$ ), the rejection regions for each of the hypothesis tests were:

$$\begin{aligned} (1) |z| &> z_{\alpha/2} \\ &> z_{.05/s} \\ &> 1.96 \end{aligned}$$

$$\begin{aligned} (2) z &> z_{\alpha} \\ &> 2.05 \\ &> 1.645 \end{aligned}$$

$$\begin{aligned} (3) z &< -z_{\alpha} \\ &< -z_{.05} \\ &< -1.654 \end{aligned}$$

**b. Logistic Regressions**

Logistic regressions were estimated on the data to determine what factors significantly increase or decrease the probability that a member's child care experiences would influence his or her career decision. A complete discussion of the models and analysis of the results are presented in Chapter V.

**2. Testing Whether On-Site Facilities Affect Incidence of Work Interference**

As discussed previously, all statistical tests relating to work interference were conducted separately with and without data gathered from the Naval Postgraduate School to eliminate any bias that may arise from this command's demographic composition. Results are presented together for ease of comparison.

**a. Crosstabs**

It was of interest to identify patterns in the reported incidence of interference by sex, marital, paygrade status or by the presence or absence of an on-site

child development center. The parameters compared between the two sample populations were the proportions ( $p_1 - p_2$ ). The following hypothesis tests were conducted [Ref. 31: pp. 236, 356-362]:

Test (1):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) \neq 0$

Test (2):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) > 0$

Test (3):  $H_0: (p_1 - p_2) = 0$   
 $H_A: (p_1 - p_2) < 0$

The test statistic,  $z$ , was calculated as follows:

$$Z = \frac{(\hat{p}_1 - \hat{p}_2) - (p_1 - p_2)}{\sqrt{\hat{p} \hat{q} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where  $\hat{p}_1$  = the proportion of respondents assigned to commands without on-site child development centers who responded in a certain way, or the sample's proportion of "successes" for statistical testing purposes.

$\hat{p}_2$  = the proportion of respondents assigned to commands with on-site child development centers who responded in a certain way, or the sample's proportion of "successes" for statistical testing purposes.

$p_1$  = the population parameter to be tested for the sample population assigned to commands without on-site child development centers, which is best estimated by  $\hat{p}_1$ .

$p_2$  = the population parameter to be tested for the sample population assigned to commands with on-site child development centers, which is best estimated by  $\hat{p}_2$ .

$\hat{p}$  = the proportion of personnel in the entire sample population who responded in a certain way, or the total proportion of "successes" for statistical testing.

$\hat{q}$  = the proportion of "failures" for the total sample population, or  $(1 - \hat{p})$ .

$n_1$  = the number of observations (respondents) assigned to commands without on-site child development centers who responded to the question being studied.

$n_2$ =the number of observations (respondents) assigned to commands with on-site child development centers who responded to the question being studied.

Note: If the test was designed to test differences between other personnel characteristics,  $\hat{p}_1$  and  $\hat{p}_2$  would apply, respectively, to enlisted personnel and officers, singles or married personnel, or men and women.

At the 5 percent significance level ( $\alpha = .05$ ), the rejection regions for each of the hypothesis tests were:

$$\begin{aligned} (1) |z| &> z_{\alpha/2} \\ &> z_{.05/2} \\ &> 1.96 \end{aligned}$$

$$\begin{aligned} (2) z &> z_{\alpha} \\ &> 2.05 \\ &> 1.645 \end{aligned}$$

$$\begin{aligned} (3) z &< -z_{\alpha} \\ &< -z_{.05} \\ &< -1.654 \end{aligned}$$

**b. Logistic Regressions**

Logistic regressions were estimated on the data to determine what factors significantly increase or decrease the probability that a member would experience child care-related work interference. A complete discussion of the models and analysis of the results are presented in Chapter V.

#### IV. BIVARIATE ANALYSIS OF SURVEY RESULTS

The survey results are presented in two forms. The data were first analyzed with all observations, and then a second time excluding data from the Naval Postgraduate School (NPS), Monterey, California, in an attempt to eliminate any bias that may have arisen from such an unrepresentative population. The NPS survey population was very large (315 people)--96 percent of whom were officers, and primarily men with homemaker-wives. It may be noted that the principal empirical results were not affected by exclusion or inclusion of the NPS respondents, but slight differences in detail did occur. Wherever results differed from those extracted from the total sample population, statistics from both analyses are presented concurrently, one marked "With NPS Data" and another marked "Without NPS Data." If results from the two analyses did not differ in a statistically significant way, only the data for the entire sample population are presented. Most of the results contrast the differences in personnel behavior or opinions by command type (i.e., commands without on-site child development facilities and commands with on-site facilities). Some results also compare behavior of personnel by marital status or officer/enlisted status when it is considered to be of interest.

This analysis section presents, through discussion and graphs, a demographic summary of respondents, statistics on spousal employment and the distribution of dependents by command type, trends in respondents' current child care arrangements, and the frequency of various types of work interference reported by marital status and command type. Selected crosstabulation tables, and z-values (for purposes of conducting statistical hypothesis tests, as described in the methodology section) are presented in Appendix F.

## A. CHARACTERISTICS OF RESPONDENTS

### 1. Distribution Of Sample By Gender

As shown in Figure 3 below, about 88 percent of the survey respondents were men and just under 12 percent were women, fairly representative of the gender mix of the total active-duty Navy. Gender distribution did not statistically differ between command types.

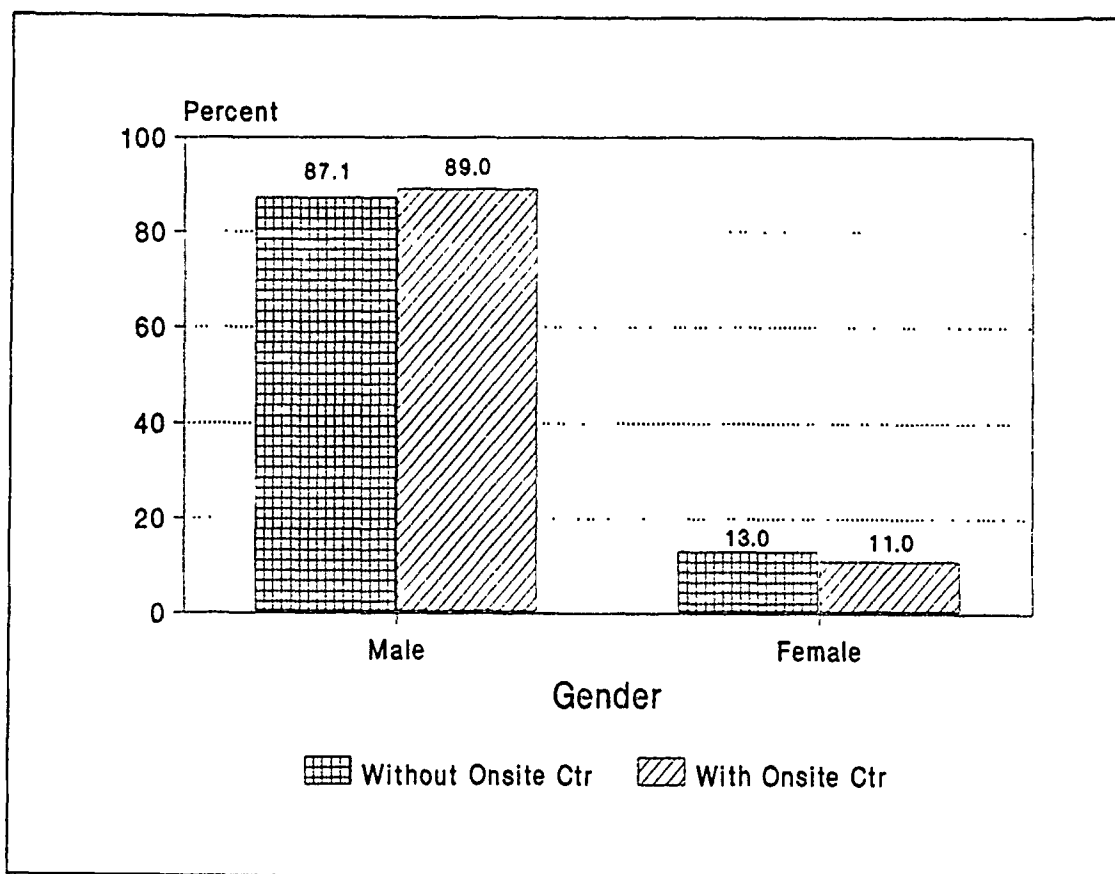


Figure 3. Percentage Distribution of Respondents by Gender

### 2. Distribution Of Sample By Marital Status, Officer/Enlisted Status and Age

When the total sample was analyzed, commands without on-site child development facilities had a greater proportion of personnel who were single and enlisted. Both command types had an average of 4 percent of personnel in the 19-24 age

category: however, commands without on-site centers had a smaller proportion (83 versus 90 percent) of 25-39 year olds and a larger proportion (12 versus 7 percent) of personnel aged 40 or older. When NPS data were excluded, the proportions of personnel were equivalent between command types for marital status (an average of 16 percent single, 84 percent married), officer/enlisted status (an average 86 percent enlisted, 14 percent officer), and age categories (an average 7 percent 19-24 year olds, 80 percent 25-39 year olds, and 13 percent over age 40). Figures 4 through 6 show the percentages of respondents with and without NPS data for these three categories.

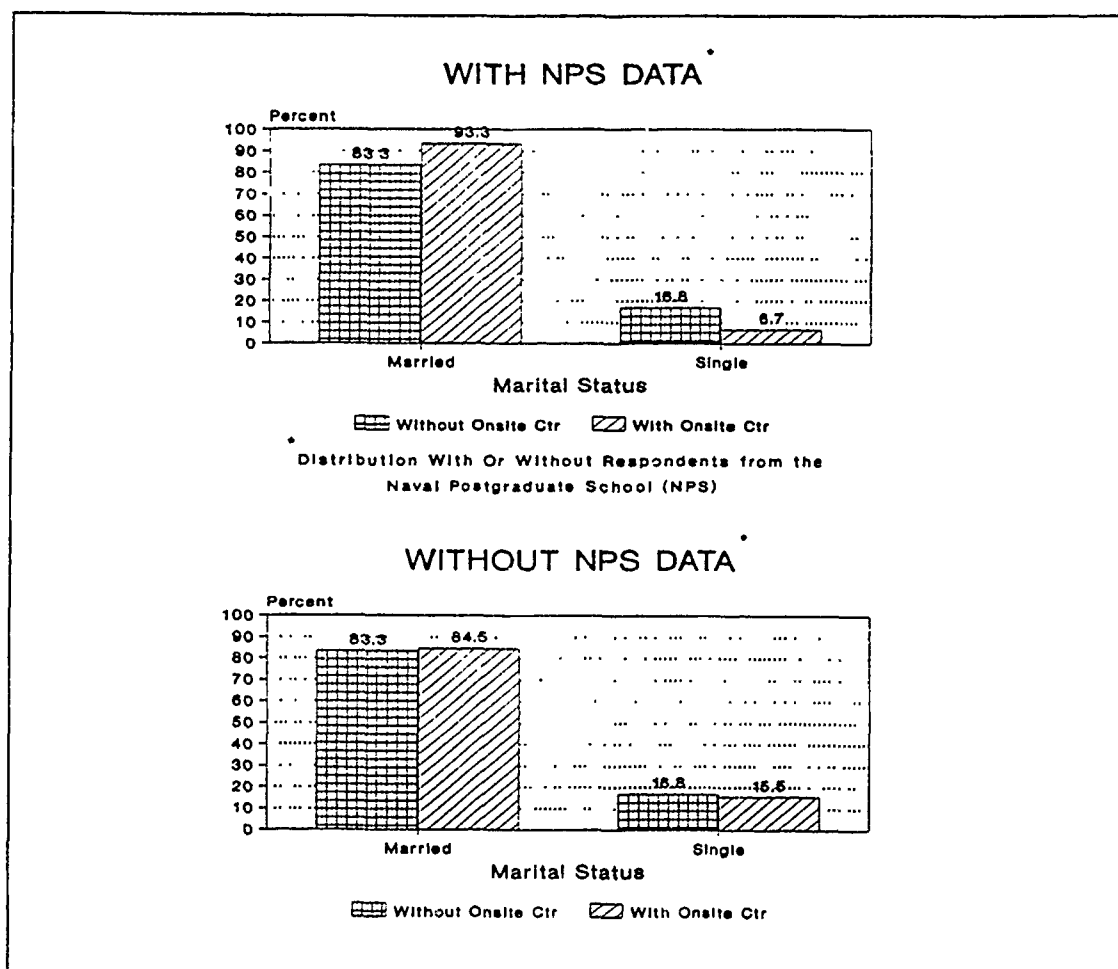


Figure 4. Percentage Distribution of Respondents by Marital Status

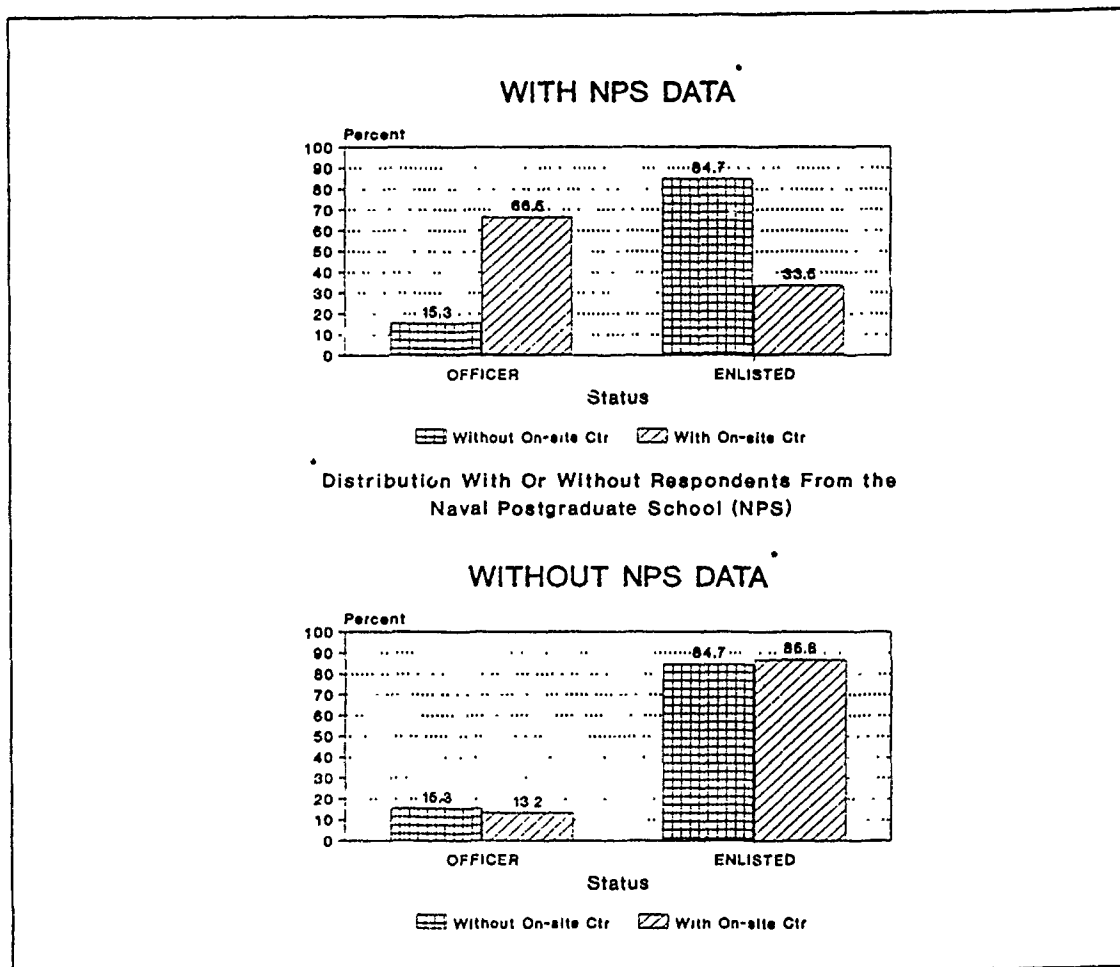


Figure 5. Percentage Distribution of Respondents by Officer/Enlisted Status

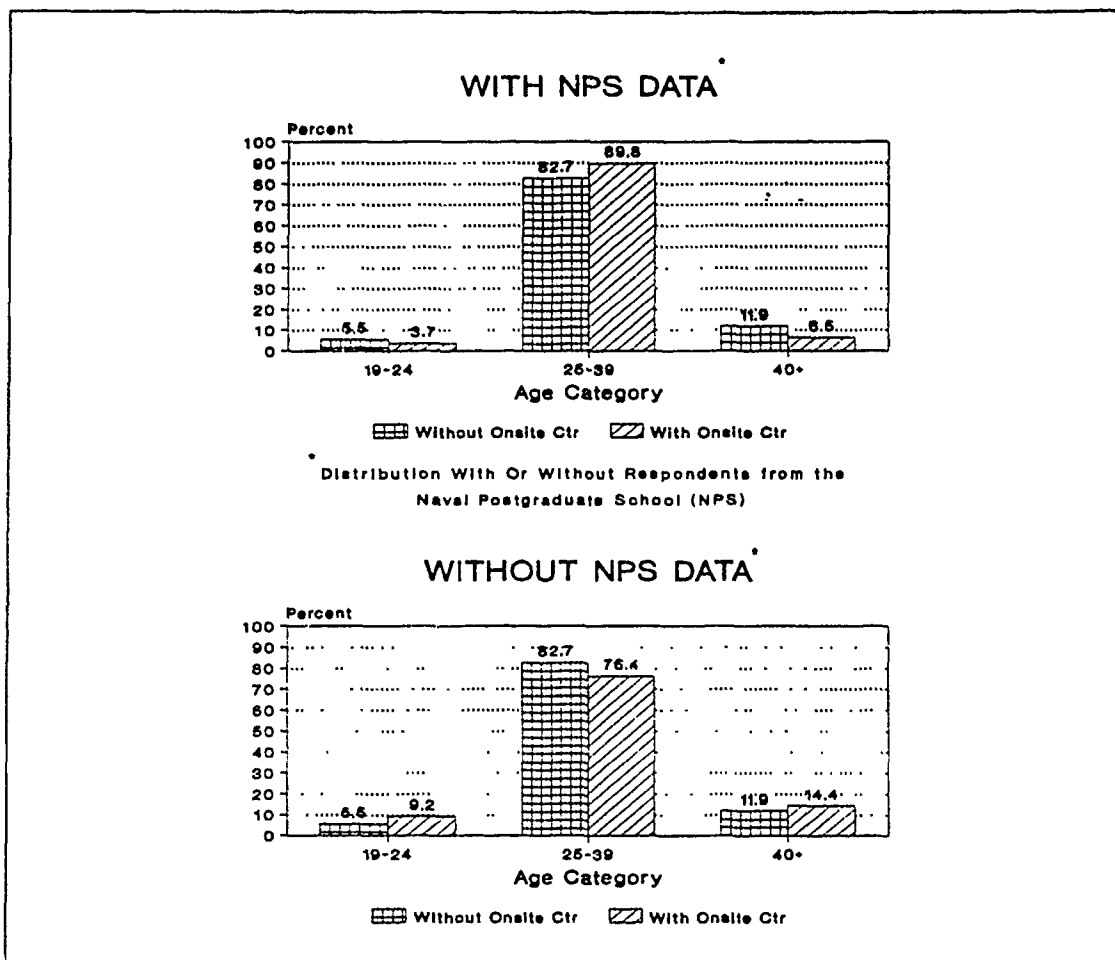


Figure 6. Percentage Distribution of Respondents by Age Category

### 3. Racial/Ethnic Distribution

Racial/ethnic distributions for both samples are presented in Figure 7. The total sample population was 80 percent white, 11 percent black, and just over 3 percent each for Hispanics and Asians. There was no statistical difference between command types in the distributions of Hispanics, Asians, and the "other" category. Commands with an on-site child development center had a larger proportion of whites and a smaller proportion of blacks than did the commands without the on-site centers.



When NPS data were excluded, the racial/ethnic distribution was equivalent in all categories except one: commands with on-site centers had a greater proportion of Hispanics. In these data, the overall proportion of blacks and Hispanics rose to just over 17 and 4 percent, respectively. The proportion of whites decreased to 73 percent. Asians and "others" each made up just under 3 percent of the population.

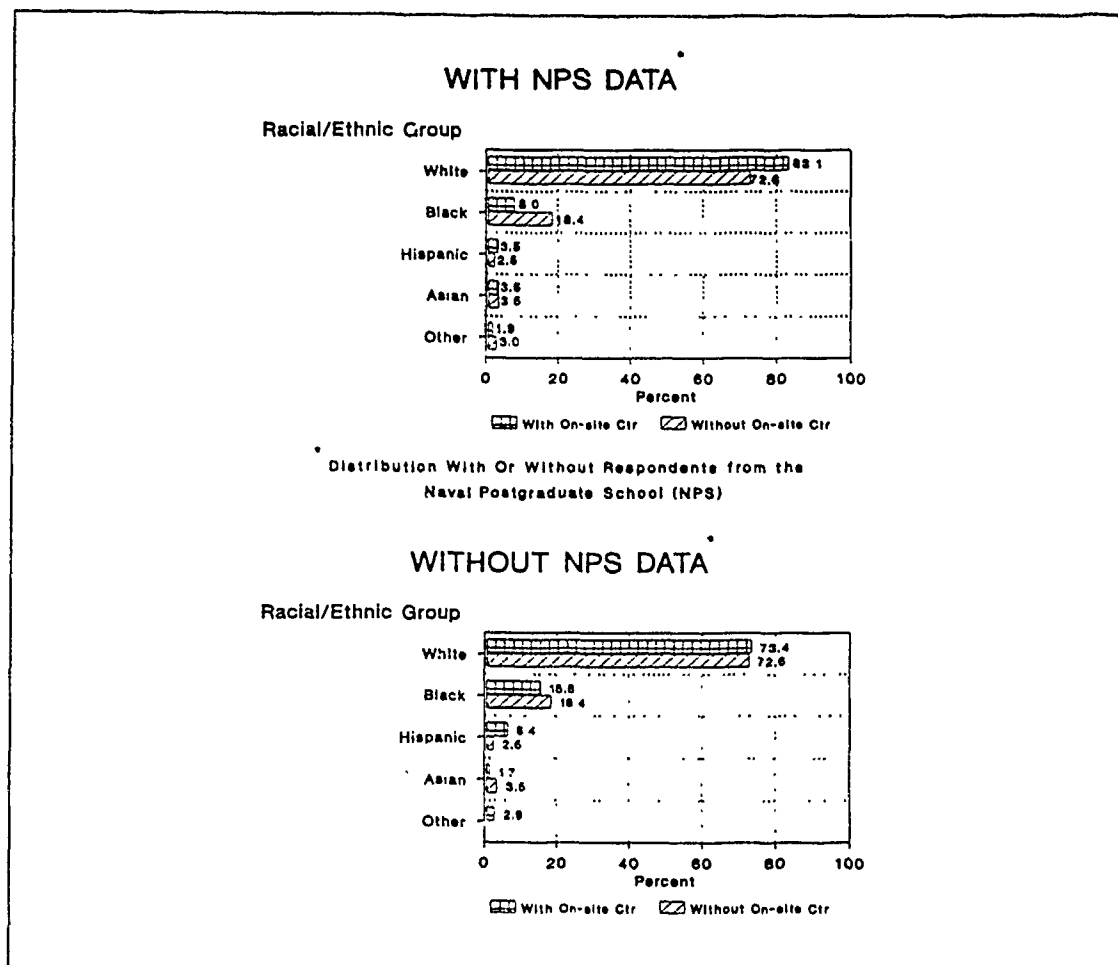


Figure 7. Percentage Distribution of Respondents by Racial/Ethnic Group

#### 4. Paygrade Distribution

As shown in Figure 8, the distribution of respondents' paygrades was significantly skewed toward midgrade officers when NPS data were included. Commands without on-site child development centers had a statistically larger

proportion of enlisted personnel in paygrades E-5 through E-8. Commands with on-site facilities had a much larger proportion of officers in paygrades O-3 and O-4. When NPS data were removed, all paygrades were represented equally between command types, except in one case: commands without on-site centers had a larger proportion of Lieutenant Commanders.

## **5. Educational Attainment**

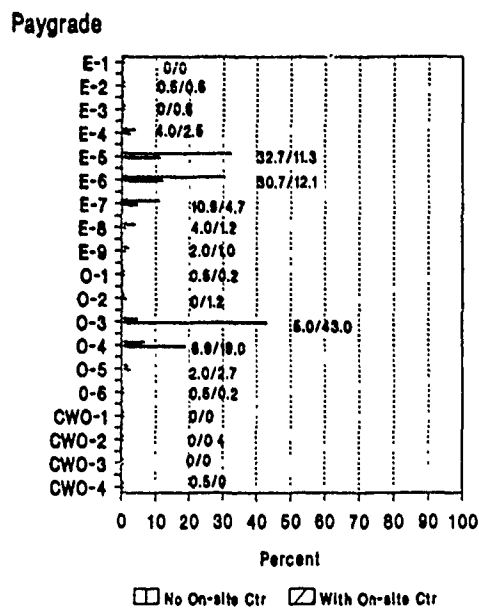
The distribution of respondents' educational attainment was highly skewed when all commands were included in the data set, as depicted in Figure 9. More than half (52.2 percent) of all personnel had earned a Bachelor's degree or higher, due to the large number of officers at the commands with on-site child development centers. Commands without on-site centers had a larger proportion of personnel with Associate's degrees or below. When the large population of officers at NPS were removed from the data set, however, both command types had similar proportions in all educational categories but one: commands without on-site centers still had a larger proportion of personnel with Associate's degrees. In this sample population, less than 15 percent had earned a Bachelor's degree or higher, which is probably more representative of the educational profile of the total active-duty Navy.

## **B. PROFILE OF SPOUSAL EMPLOYMENT**

The employment status of a member's spouse is an important factor to consider in the child care issue. Not only does a working spouse create the need for out-of-home child care arrangements, but the spouse's income directly affects the couple's child care options. The percentages of employed spouses are presented in terms of the respondents' officer/enlisted status and by command type in Figures 10 and 11.

The majority of spouses are working for pay (over 56 percent when NPS data are included, and almost 69 percent when NPS data are excluded), and the percentage of

## WITH NPS DATA



\*  
 Distribution With Or Without Respondents from the  
 Naval Postgraduate School (NPS)  
 Values in figure are shown for No On-Site Ctr/With On-site  
 Ctr, respectively

## WITHOUT NPS DATA

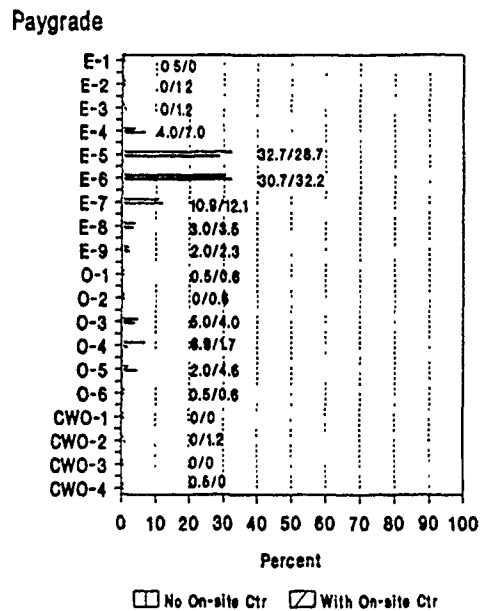
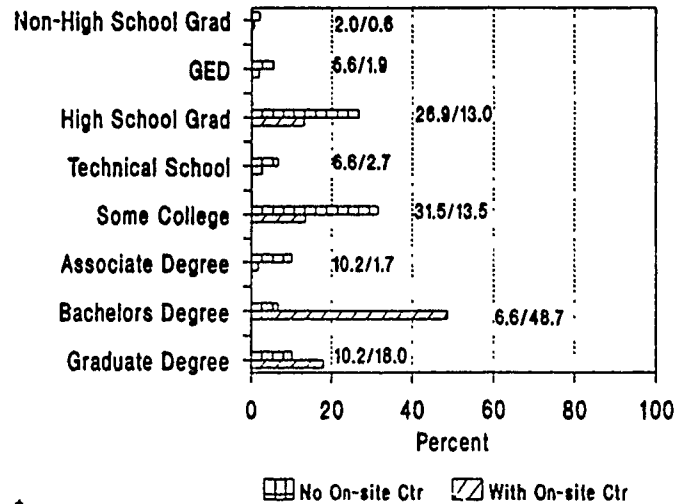


Figure 8. Percentage Distribution of Respondents by Paygrade

## WITH NPS DATA

### Educational Attainment



Distribution With Or Without Respondents from the  
Naval Postgraduate School (NPS)

Values in figure are shown for No On-site Ctr/With On-Site  
Ctr, respectively

## WITHOUT NPS DATA

### Educational Attainment

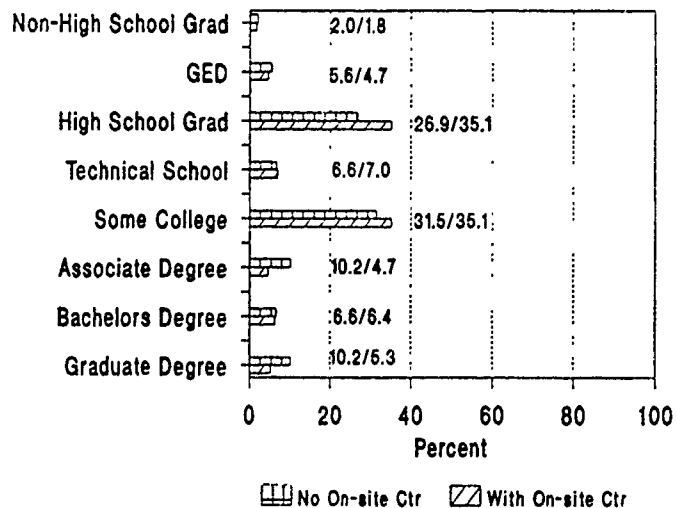


Figure 9. Percentage Distribution of Respondents by Educational Attainment

spouses working full-time (over 30 percent) exceeds those working part-time by over 8 percent.

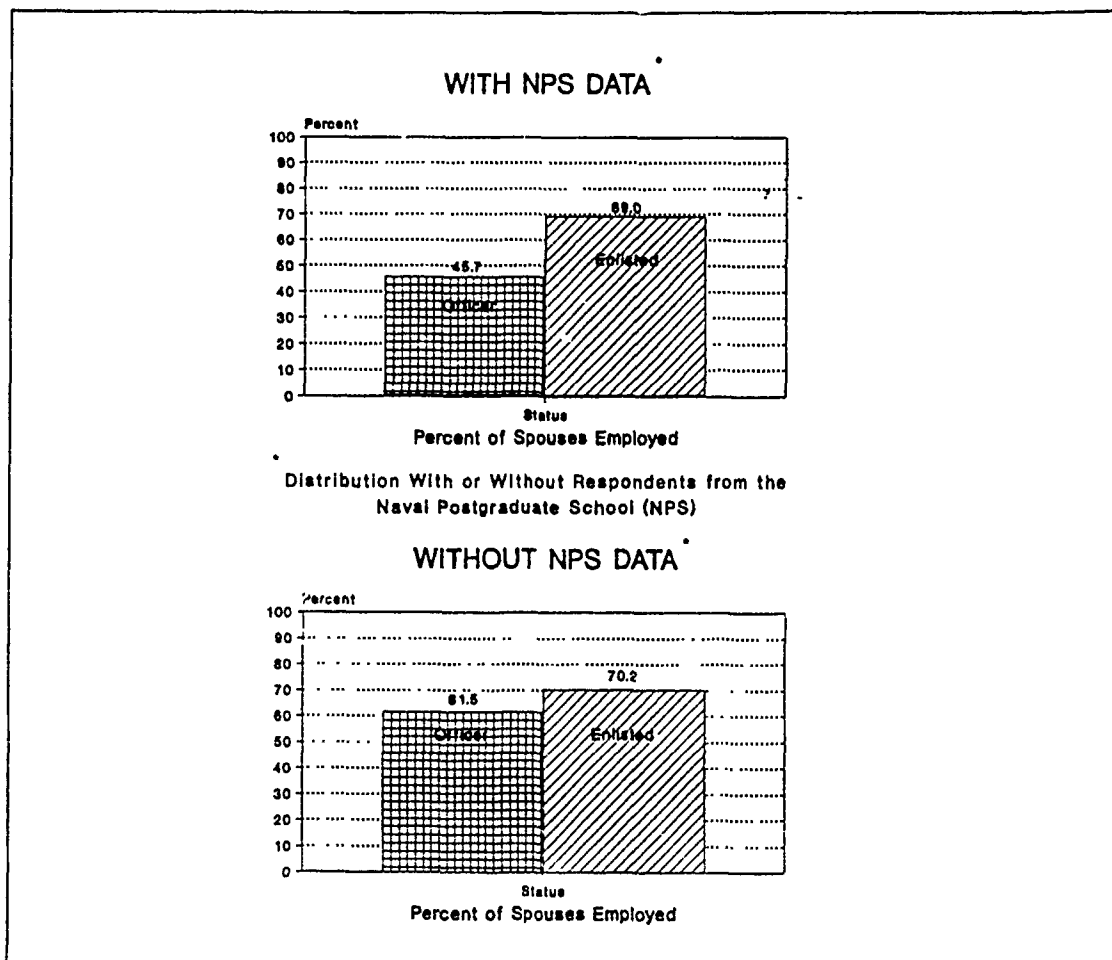
### **1. Officer/Enlisted Status of the Sample**

The data suggest, when all commands are considered, that a larger proportion of the spouses of enlisted personnel (almost 70 percent) than of officers (46 percent) are working. However, when NPS data are removed, the proportions of working spouses, 70 percent of enlisted spouses and 62 percent of officer spouses, become statistically similar.

Both analyses suggest, however, that almost one-half of the spouses of enlisted personnel work full-time and a majority of spouses of officers choose not to work for pay or work part-time. With NPS data, 54 percent of the spouses of officers were not working; without NPS data, this proportion dropped to 40 percent, but was still greater than the 31 percent who were working part-time. This could reflect the fact that spouses of officers have a higher level of education, and short-term, full-time employment (i.e., 3 years or less) may be more difficult to obtain. On the other hand, enlisted members' spouses, if they work at all, may require more work hours at a lower wage rate (a partial function of education level) to earn the wages necessary to make working financially desirable.

### **2. Command Types**

The analyses consistently show that a larger proportion of spouses who choose not to work for pay are located at commands with on-site child development facilities. In addition to the effect of the large number of non-employed officer spouses in the NPS data, the four commands with on-site centers had lower consumer price indices. Three of the four commands also had lower median household incomes than their comparison commands without the on-site center. These data suggest that the lower cost



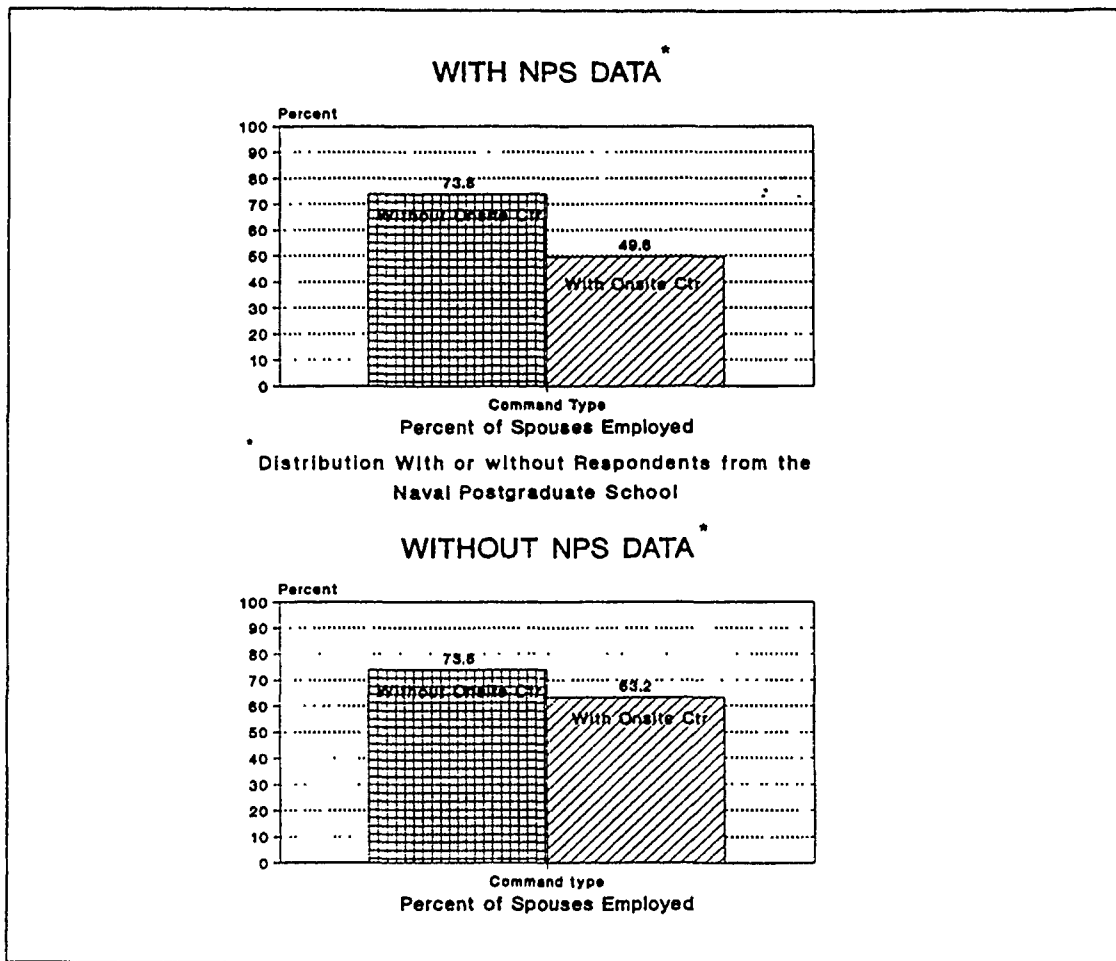
**Figure 10. Percentage Distribution of Respondents by Spouse Employment and Officer/Enlisted Status**

of living at the commands with an on-site center may result in a higher percentage of spouses choosing not to work.

### **C. DISTRIBUTION OF MINOR DEPENDENTS**

Respondents were asked to list the number of dependents in their immediate care using the following age categories:

1. Infant (less than 1 year)
2. Pretoddler (1 year to less than 2 years)
3. Toddler (2 years to less than 3 years)
4. Preschool age (3 to 5 years)
5. School age (6 to 12 years)



**Figure 11. Percentage Distribution of Respondents by Spouse Employment and Command Type**

Since the military child development center was intended for use by children 6 years old or younger, the need to establish an on-site center would be driven by the installation's population of dependents in this age group [Ref. 32: p. 8]. An analysis of the distribution of children between command types revealed that, when NPS data were included, 3 out of 4 respondents reported having at least one child 6 years old or younger. Commands with on-site child care had a larger proportion (77 percent) of children in this age group than did commands without on-site centers (69 percent). At the time of the survey, personnel at commands with on-site centers reported 563 children younger than age 6, while 191 children were reported at commands without

centers (or a ratio of almost 3 to 1). Logically, commands with a larger target population would provide on-site facilities. When NPS data were removed, however, the proportions of preschool or younger children were statistically equivalent between command types, with slightly more than 2 out of 3 respondents reporting at least one child in this age group. Commands with centers reported 162 children below the age of 6 years, much closer to the 191 children at commands without centers. Perhaps these statistics were different several years ago, or other overriding factors may have dominated in previous "needs analyses" at commands that do not have on-site facilities. However, as detailed in section J, three of the four commands without an on-site center at the time of the survey have reassessed their child care needs and are either establishing child development centers and/or expanding their Family Home Care Programs within the next fiscal year.

#### **D. CURRENTLY USED CHILD CARE ARRANGEMENTS**

Working parents' current choices in child care arrangements assume a striking pattern depicted in Figure 12 below. Among the eight surveyed commands, spouses are the primary care providers (almost 62 percent of cases when NPS data were included, and over 50 percent when NPS data were excluded).

The next three most commonly used types of care are a non-relative hiree (about 21 percent with NPS data, and 25 percent without NPS data), the military-sponsored child development center, and a relative. The two analyses juxtaposed the ranking of the last two: the military child development center ranked third among all commands (with a respondent use rate of 12 percent), and ranked fourth when NPS data were removed (with a use rate of over 9 percent). Relatives ranked fourth (with a use rate of just under 9.5 percent) with NPS data; without NPS data, relatives ranked third (with a use rate of over 12 percent). The rankings of military family home care and extended



care programs was also juxtaposed in the two analyses, but the actual percentage difference was minimal.

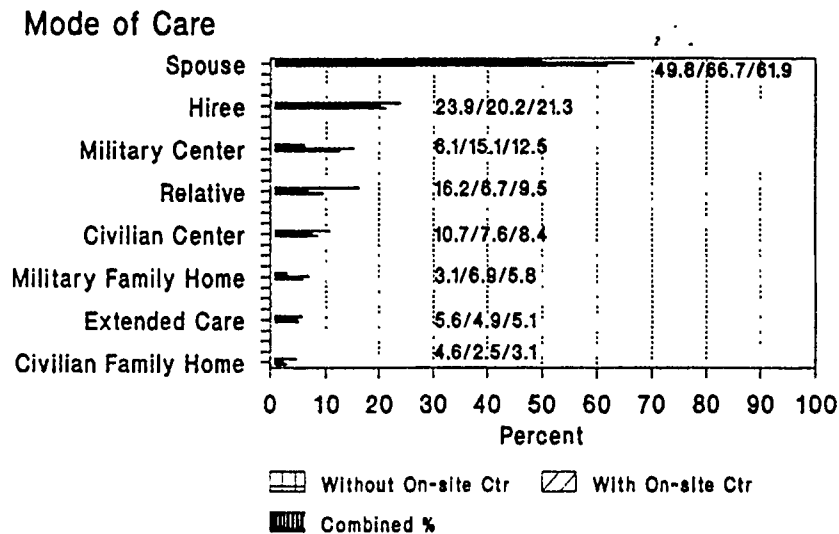
The overall ranking among the two data analyses was remarkably similar, generally suggesting that parents prefer individual (as opposed to institutionalized) care settings for their children. Thus, a spouse, relative, or non-relative hiree is preferred over a group care alternative. The respondents also displayed a preference for military-sponsored care over civilian-sponsored programs. This could be due to the perceived stricter regulatory guidelines for military-sponsored care, lower cost, more convenient location, and hours of operation.

The low usage of military Family Home Care programs may be misleading. Family Home Care is a less costly alternative for the Navy, though it generally provides more flexibility for working parents, since a family home provider may be able to adapt to unusual working hours or care for mildly-ill children. Note that, at the time of the survey, two commands had limited access to Family Home Care programs (either from using Air Force programs or the limited program in a Navy housing complex), and two commands did not have active Family Home Care Programs. Thus, the desirability of this program is probably misrepresented.

#### **E. CHILD CARE RELATED WORK INTERFERENCE**

Almost 40 percent of all respondents reported that child care problems had interfered with their work in some way during the past year. The proportions of personnel who reported some child care-related work interference did not differ statistically by marital status or assignment to a command with or without an on-site child development center.

## \* WITH NPS DATA



\*  
Distribution With Or Without Respondents from the  
Naval Postgraduate School (NPS)

Values in figure are shown for Without On-Site Ctr/  
With On-Site Ctr/Combined, respectively

## \* WITHOUT NPS DATA

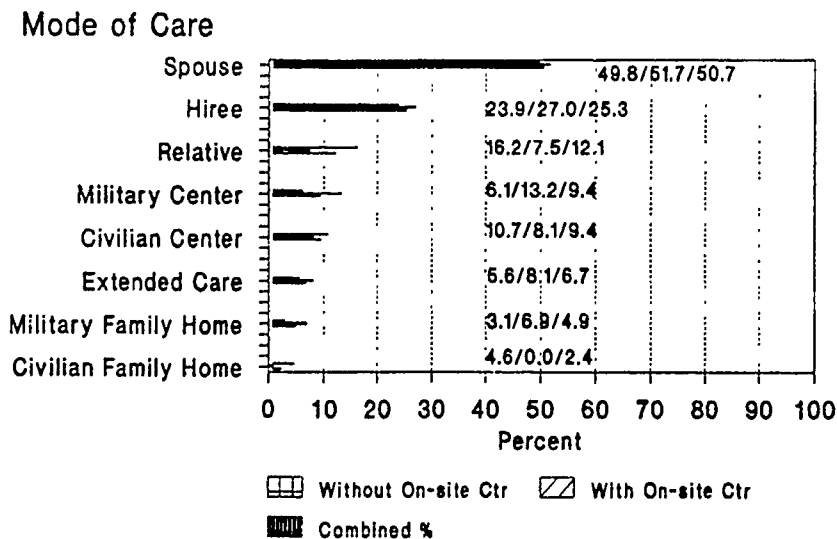


Figure 12. Percentage Distribution of Respondents by Mode of Child Care  
Currently Used

### **1. Work Interference Analyzed by Marital Status**

Overall, however, a larger proportion of married personnel reported that they had no child care-related work problems than did single parents. Over one-half of married personnel reported that child care did not interfere with their work, compared with one-third of single parents. Those who reported some child care-related work interference were then asked to detail the types of work problems or pressures they had experienced at their current duty station. A larger proportion of singles than married personnel reported experiencing stress, tardiness, low motivation, financial difficulties, loss of mobility, having to bring children to work for lack of other child care arrangements, difficulty standing night watches because of difficulty finding child care providers, and having to change a job or a rating for child care-related reasons.

With NPS data included, singles also reported a higher incidence of spending extra time on the telephone dealing with child care problems, taking a second job (moonlighting), and taking unplanned leave; however, when NPS data were excluded, there was no significant difference in these three categories between single and married personnel.

### **2. Work Interference Analyzed By Command Type**

Figure 13 summarizes the percentages of personnel who reported work interference by command type. The data suggest that some kind of child care-related stress is experienced by parents regardless of facilities offered on base. The incidence of work interference was fairly similar between command types: 41 percent at commands without on-site centers and 37 percent at commands with on-site centers. There was no significant difference between command types in the proportion of personnel reporting stress, absence from work, increased errors, low motivation, and having to change a job or rating due to child care problems.

Constant rates of stress, error rates, and low motivation may be due to universal parental concern for the welfare of their children and may not vary with the presence or absence of child care benefits. Absence from work is often due to having to care for a sick child. This situation probably cannot be alleviated by having an on-site center, since most child care centers and Family Home Care providers cannot accept sick children. A job or rating change caused by child care problems is indicative of a long-term, serious problem with child care arrangements (perhaps due to single parenthood or a child with special care needs). Such a situation also would not be eased by the availability of an on-site center.

Personnel at commands without an on-site child development center consistently reported a higher proportion of financial difficulties, taking a second job (moonlighting), loss of mobility, and taking children to work for lack of other child care arrangements. An on-site child development center may help to relieve the financial burden of paying for child care, since fees are normally 50 to 75 percent of fees charged in the civilian sector[Ref. 32: p. 1]. A Family Home Care program may be more useful than an on-site center in meeting the needs of a member who either works unusual hours (i.e., shift work, weekends, or night watches) or participates in short-term exercises.

When NPS data were included, personnel at commands without on-site centers also reported higher instances of spending time on the telephone dealing with child care problems, taking unplanned leave, and having difficulty standing night watches. The proportions became similar between command types when NPS data were excluded. A higher proportion of non-employed wives at NPS could have caused this difference, since they are available to take care of family problems.

When NPS data were excluded, almost 20 percent of personnel at commands without on-site child care reported tardiness. This is a higher proportion than for

personnel at commands with centers (11 percent). This suggests that having a child care facility located at the worksite may alleviate minor absences, perhaps because those using off-site facilities may encounter commuting delays or other disruptions in their child care arrangements that could make them late to work more often.

#### **F. CHILD CARE EXPERIENCES' INFLUENCE ON THE CAREER DECISION**

As depicted in Figure 14, the data suggest that a larger proportion of single (44 percent) and enlisted personnel (32 percent) report that their child care experiences influence their decision whether to remain in or leave active-duty. In contrast, only 20 percent of married personnel and 11 percent of officers report that their career decisions are influenced by child care issues. When the entire sample population was considered, personnel at commands without on-site child development centers reported a higher proportion of career influence; however, when the large population of NPS officers was deleted from the sample, child care-related career influence was similar between command types.

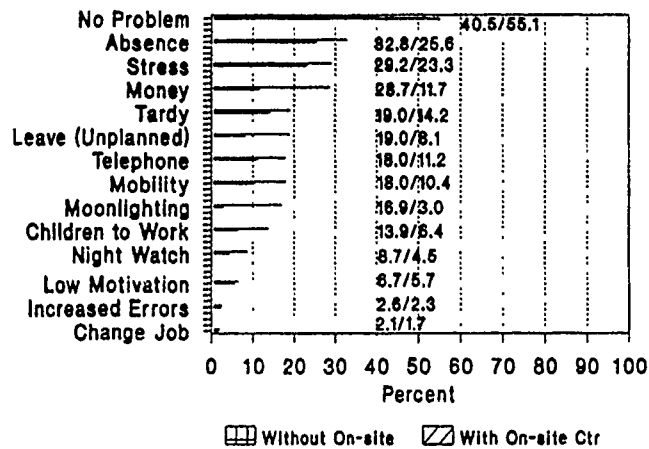
##### **1. The Positive/Negative Influence Of Child Care On a Career**

###### **By Officer/Enlisted Status**

The influence of child care on a career decision can either be positive for retention (i.e., more likely to remain in the Navy) or negative (i.e., more likely to leave the Navy.) Figure 15 shows that when NPS data were included, 20 percent of enlisted personnel reported that their child care experiences negatively influenced their career decision and 9.5 percent reported a positive career influence. Officer behavior was significantly different in both instances with only 7 percent of officers reporting a tendency to leave the service and 4 percent a tendency to stay. When NPS data were excluded, the proportion of enlisted personnel who reported a negative career influence was statistically similar to the proportion of officers reporting a negative career

## WITH NPS DATA

### Types of Interference



Distribution With Or Without Respondents from the  
Naval Postgraduate School (NPS)  
Values in figure are shown for Without On-Site Ctr/  
With On-Site Ctr, respectively

## WITHOUT NPS DATA

### Types of Interference

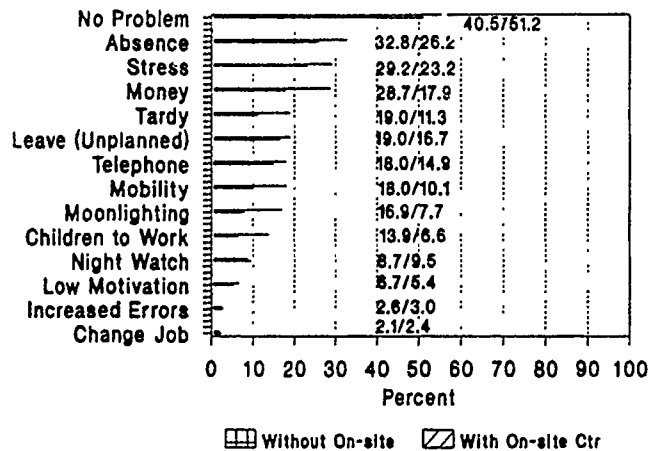


Figure 13. Percentage of Respondents Who Reported Child Care-Related Work Interference by Command Type

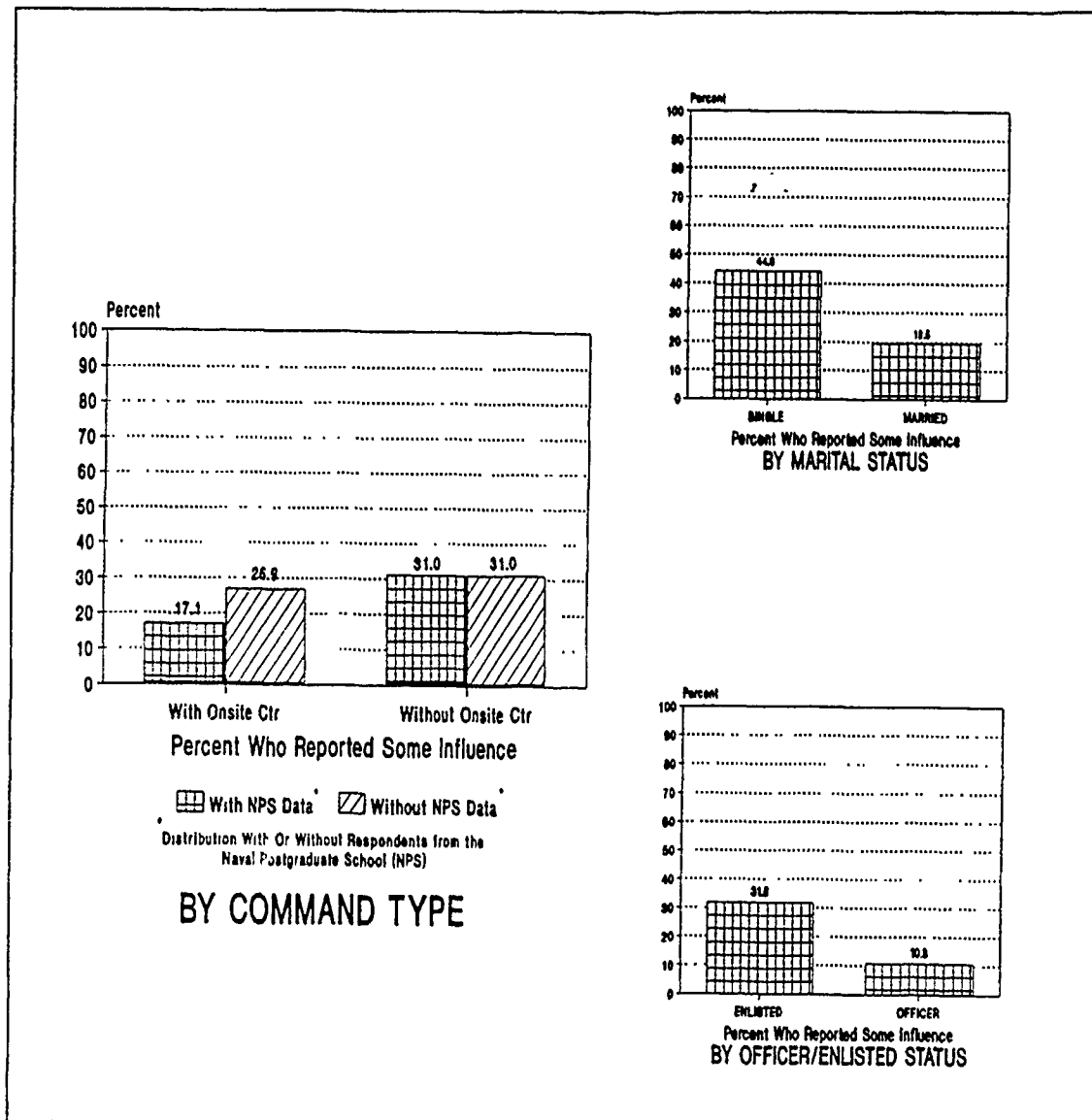
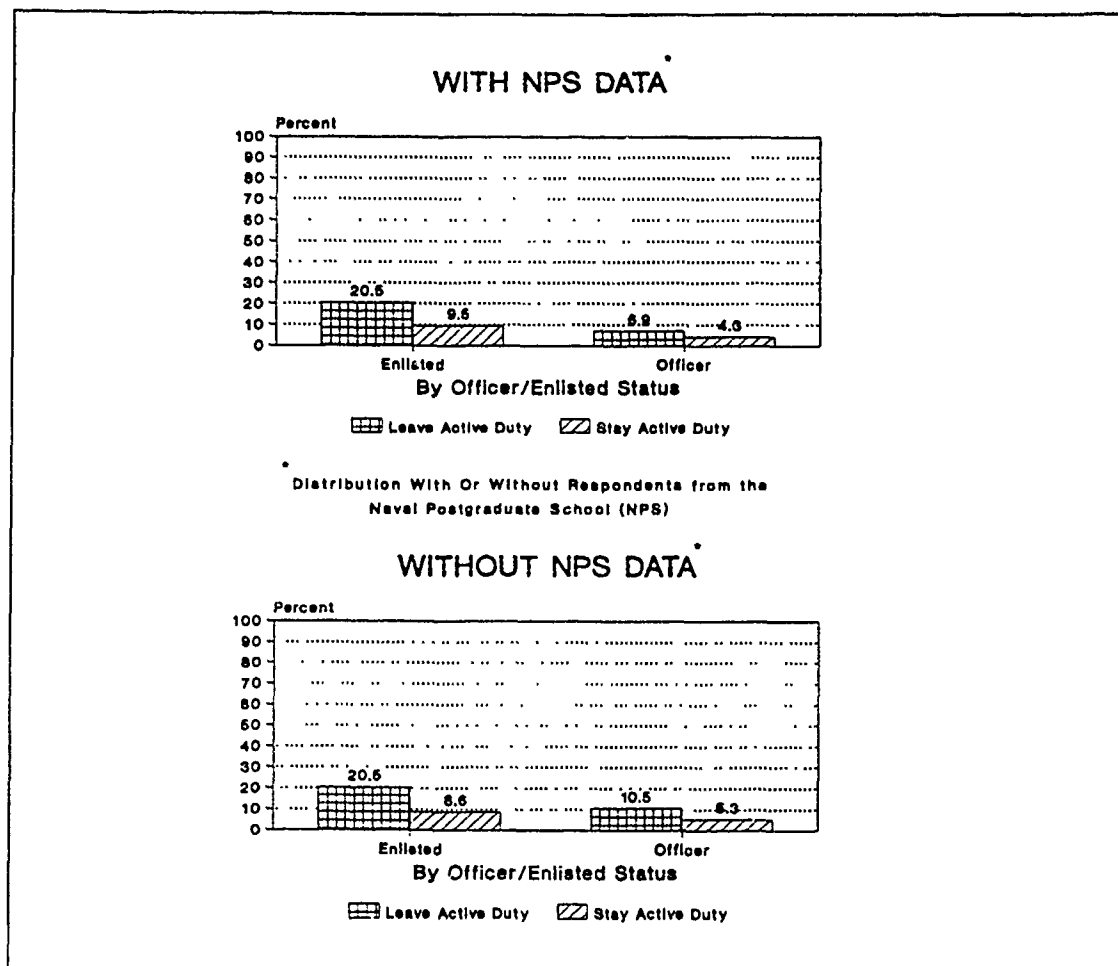


Figure 14. Percentage of Respondents Who Reported "YES" to the Question: "Have Your Child Care Experiences Influenced Your Decision to Remain in the Navy?"

influence. Likewise, the proportions of those reporting a positive career influence were statistically similar between enlisted personnel and officers.

In both analyses, however, for those personnel who reported some influence, child care experiences appear to be more likely to discourage retention. Without NPS data, 20 percent of enlisted personnel and 11 percent of officers reported that they were more likely to leave; 9 percent of enlisted personnel and 5 percent of officers said they

were more likely to stay as a result of their child care experiences. These actual percentages were fairly consistent when NPS data were included, but in this case, the proportions of enlisted personnel who reported both types of influence were significantly greater than among officer personnel.



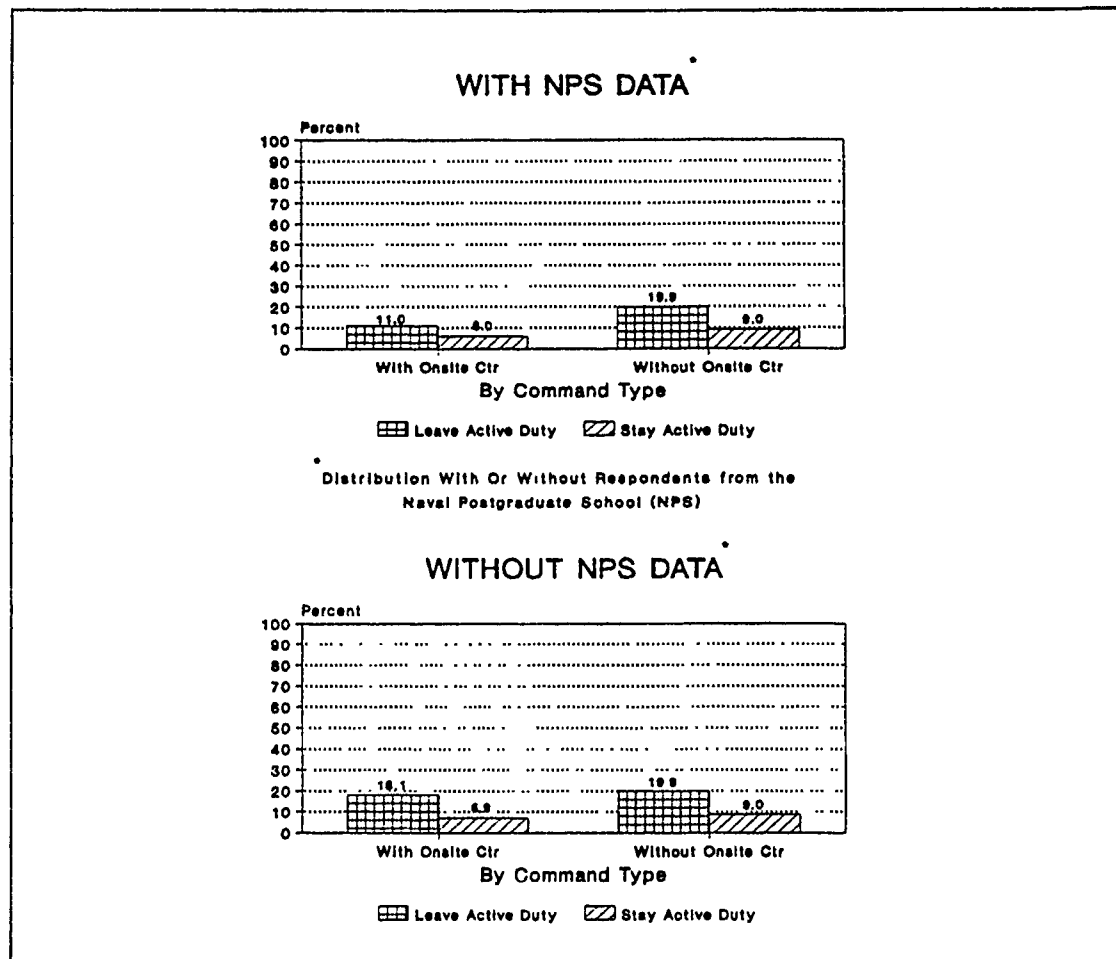
**Figure 15. Percentage of Officer/Enlisted Respondents Who Reported That They Are More Likely to Stay in or Leave the Navy Because of Their Child Care Experiences**

## 2. The Positive/Negative Influence Of Child Care On a Career By Command Type

Type of career influence is examined by command type in Figure 16. Considering the entire sample population, the proportion of members whose career



decisions were positively influenced by their child care experiences were similar between command types. A greater proportion of personnel at commands without on-site child development centers (20 percent versus 11 percent of those at commands with centers) reported negative career influence.



**Figure 16. Percentage of Respondents by Command Type Who Reported That They Are More Likely to Stay in or Leave the Navy Because of Their Child Care Experiences**

When NPS data were deleted, the proportion of respondents who reported they were more likely to stay were similar between command types, as was the proportion of those who were more likely to leave.

Again, it appears that child care experiences tend to influence members in a negative way by almost 2 to 1: with NPS data, 14 percent of members were negatively

influenced and 7 percent positively influenced. The response was even stronger when NPS data were deleted: 19 percent of respondents said they were more likely to leave the Navy and 8 percent said they were more likely to stay.

#### **G. PROFILE OF USERS OF MILITARY ON-SITE CHILD DEVELOPMENT CENTERS**

Overall, 15 percent of the personnel assigned to installations with on-site child development centers actually used the center. Personnel at commands which did not have an on-site facility, but who had access to other-service facilities or Navy child development centers located off their installation, were not included in this portion of the analysis. A greater proportion of women (24 percent) than men (14 percent) used the centers. Enlisted personnel and officers (12 and 17 percent, respectively), married and single personnel (12 and 15 percent, respectively), used the centers in statistically similar proportion.

#### **H. PERCEPTIONS OF WHETHER ON-SITE MILITARY CHILD DEVELOPMENT CENTERS RELIEVE WORK INTERFERENCE**

Slightly less than 20 percent of respondents reported that the on-site child development center at their current duty station relieved some of the work problems and pressures they were experiencing. These individuals were represented in similar proportion by gender, officer/enlisted status, and marital status.

Approximately three-fourths of the remaining respondents (or 135 of 192) wrote an explanation on their survey forms as to why child care centers had not relieved any of their problems or pressures. A summary of their explanations follows:

1. 40 percent said the centers had no space available for their children.
2. 17 percent said the center's hours of operation didn't accommodate their work schedule.

3. 15 percent cited their dissatisfaction with the center's quality.
4. 8 percent cited the inconvenience of the system for scheduling children for drop-in care.
5. 7 percent cited dissatisfaction with the cost of child care.
6. 6 percent said that their residence was too far from the on-site center.
7. 6 percent expressed a preference for other types of care arrangements.
8. 3 percent noted the center's inability to care for sick children.

**I. PERCEPTIONS OF WHETHER AN ON-SITE MILITARY CHILD  
DEVELOPMENT CENTER WOULD RELIEVE WORK INTERFERENCE IF IT  
WERE AVAILABLE**

Approximately 80 percent of personnel assigned to commands that did not currently have an on-site child development center felt that such a center would relieve some of the work problems and pressures they were experiencing. Eighty-four percent of these respondents were enlisted personnel, compared with 60 percent of officers. In addition, 96 percent were single, compared with 77 percent of those who were married.

**J. PRESENT AND FUTURE CHILD CARE FACILITIES FOR COMMANDS  
WITHOUT ON-SITE CENTERS**

NCU Washington, D.C. and NAVDIST Washington, D.C. rely heavily on space available in the Family Home Care programs and child development centers at nearby Andrews and Bolling Air Force Bases. NAVDIST Washington personnel also have access to Bellevue Navy Housing, which has a small child development center available to housing residents only, generally junior enlisted personnel.

NAVDIST Washington and NWS Earle, Colts Neck, NJ are erecting temporary structures for child development centers in summer 1990, for a total capacity of 185 children. NAVDIST

Washington plans to erect a second temporary child development center in fiscal 1991 for an additional 100 children. Both commands have a military construction project slated for permanent centers, with a total capacity of 410 children, in fiscal 1992. NADC Warminster PA, is developing a Family Home Care program to accommodate approximately 85 children by September 1990.

NAVDIST Washington D.C., NADC Warminster PA, and NWS Earle, Colts Neck, NJ offer flexible and innovative youth center activities to meet the needs of school-age children before and after classes and during summer vacations. These programs, however, cannot accommodate preschool children.

## **V. MULTIVARIATE ANALYSIS OF SURVEY RESULTS**

### **A. THE MODELS**

Since the presence of child care-related work interference and the retention decision involves interactions between many aspects of one's personal and professional life, various logistic regression (LOGIT) models were estimated. The presence and use of an on-site child development center were the primary elements of interest.

#### **1. Factors Which Influence The Career Decision**

The dependent variable was "INFLUNS" for the first 'LOGIT' model, a dichotomous variable coded 1 if the member indicated that child care experiences had influenced a retention decision, or coded 0 if no influence was reported. Models were estimated for all married personnel, all single personnel, and then separately for married officers and married enlisted personnel. There were insufficient observations in the data set to separate single officers from single enlisted personnel. Data were pooled among the eight commands. The variable abbreviations used in the models are described in detail in Appendix E, however, brief descriptions are provided here for convenience. The 'LOGIT' models were estimated using maximum likelihood techniques.

The model for married personnel (all commands combined) was:<sup>1</sup>

$$\text{INFLUNS} = f[\text{MILCTR PRESKOOL INTRFERE NONWHITE RANK}^* \\ \text{FEMALE SOMCOLL}^{**} \text{SPOUSFUL HIGHSAL}]$$

where:

INFLUNS = 1 if respondent reported that child care experiences influenced his or her decision to remain in the Navy; 0 otherwise.

MILCTR = 1 if member uses a military-sponsored child development center; 0 otherwise.

PRESKOOL = 1 if member reported custody of a child under 6 years old; 0 otherwise.

INTRFERE = 1 if child care problems have interfered with member's work during the past year; 0 otherwise.

NONWHITE = 1 if member is not caucasian; 0 if caucasian.

RANK = 1 if member is an officer; 0 otherwise.

FEMALE = 1 if member is female; 0 if male.

SOMECOLL = 1 if member has attended some college; 0 if not.

SPOUSFUL = 1 if member's spouse works full-time; 0 if member's spouse works part-time or does not work.

HIGHSAL = 1 if member's spouse earned \$10,000 or more in calendar year 1989; 0 otherwise.

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<sup>1</sup>\*RANK was used when officers and enlisted were pooled together to determine whether officer/enlisted status was a significant factor in child care's influence on career decisions. When officers and enlisted were analyzed separately, the variable JUNIOR was substituted to determine whether being E-1 through E-5 or O-1 through O-3 was significant.

<sup>2</sup>\*\*EDUCATN was used instead of SOMECOLL when officers were analyzed separately, assuming that virtually all officers have at least a bachelor's degree. In this case, the effect of having a higher level of education is isolated.

The model for single personnel (all commands combined) was:

$$\text{INFLUNS} = f[\text{MILCTR PRESKOO L INTRFERE NONWHITE RANK} \\ \text{FEMALE SOME COLL}]$$

A second set of models were estimated for a restricted sample of personnel assigned to installations with an on-site child development center. These models included the variable "USECTR," which was coded 1 if the member was currently using the military on-site center and 0 otherwise. The model for married personnel (for commands with on-site child development centers only) was:

$$\text{INFLUNS} = f[\text{USECTR PRESKOO L INTRFERE NONWHITE RANK}^* \\ \text{FEMALE SOME COLL}^{**} \text{SPOUSFUL HIGH SAL}]$$

The model for single personnel (for commands with on-site child development centers only) was:

$$\text{INFLUNS} = f[\text{USECTR PRESKOO L INTRFERE NONWHITE} \\ \text{RANK FEMALE SOME COLL}]$$

## **2. Factors That Effect The Incidence of Child Care-Related Work Interference**

A logistic regression model was estimated on the dichotomous dependent variable "INTRFERE" to determine what factors tend to significantly increase or decrease the probability of a parent-employee experiencing child care-related work interference. The presence and use of an on-site child care center was of particular interest. The dependent variable "INTRFERE" was coded 1 if the member reported some work interference due to child care problems and coded 0 if no interference was reported.

Separate models were estimated for samples composed of all married personnel, all single personnel, and then for married officers and married enlisted personnel. There were insufficient observations in the data set to separate single officers from single enlisted personnel. Data were pooled among the eight commands. The variable abbreviations used in the models are described in detail in Appendix E. The model for married personnel (all commands) was:

$$\text{INTRFERE} = f[\text{MILCTR PRESKOO L NONWHITE RANK}^* \\ \text{FEMALE SOME COLL}^{**} \text{ SPOUSFUL HIGH SAL}]$$

The model for single personnel (all commands) was:

$$\text{INTRFERE} = f[\text{MILCTR PRESKOO L NONWHITE RANK FEMALE} \\ \text{SOME COLL}]$$

A second set of regressions were estimated for a sample of personnel assigned to installations with an on-site child development center. These models included the variable "USECTR," which was coded 1 if the member was currently using the military on-site center and 0 otherwise.

The model for married personnel (for commands with on-site child development centers only) was:

$$\text{INTRFERE} = f[\text{USECTR PRESKOO L NONWHITE RANK}^* \\ \text{FEMALE SOME COLL}^{**} \text{ SPOUSFUL HIGH SAL}]$$

The model for single personnel (for commands with on-site child development centers only) was:

$$\text{INTRFERE} = f[\text{USECTR PRESKOO L NONWHITE RANK} \\ \text{FEMALE SOME COLL}]$$



## **B. RESULTS OF MULTIVARIATE REGRESSIONS**

### **1. Effects of Explanatory Variables On The Career Decision**

The detailed estimates of all logistic regression models estimated on the entire survey population are presented in Appendix F. Data on single officers and enlisted were pooled due to the very small sample sizes, and even then, the p-values on the regressions indicated a poor model fit.

Figure 17 presents the highlights of the various logistic models. For the surveyed population, the presence of an on-site child development center or the use of that center did not significantly affect the incidence of child care-related influence on one's career decision. The results do suggest that a member who is experiencing child care-related work interference is more likely than a member who is not having child care problems to weigh child care experiences when making a decision to remain in the Navy or to leave.

For personnel at commands with on-site centers, ensigns, lieutenants (junior grade), and lieutenants tend to report greater incidence of career influence related to child care issues. This may reflect the fact that young officers are likely to have young children, which can generate much conflict for a working parent. Additionally, as an officer makes a decision to remain past an initial obligation and commits to a twenty-year active-duty career, he or she seriously weighs all of the implications of a military career, including family issues.

	MARRIED		SINGLE
	OFFICER	ENLISTED	
MILITARY CENTER			
[USE OF MILITARY CENTER]			
PRESCHOOL CHILDREN	+	+	
NON-WHITE			
OFFICER/ENLISTED STATUS	- (*)	- (*)	
FEMALE		- (**)	+
SOME COLLEGE		+	
[SPOUSE WORKS FULLTIME]	+	+	
[SPOUSE MAKES HIGH SALARY]			

Legend: "+"=positive correlation; "-"=negative correlation  
 (\*)=junior officer/enlisted only; (\*\*)=with center only

Note: Single officers & enlistees were pooled due to small sample size

Figure 17. Significant Factors that Increase/Decrease the Probability That a Member Will Experience Child Care-Related Work Interference

Married enlisted females and married officers whose spouses work full-time have a higher probability of child care issues influencing their career decisions. Assuming that the majority of married enlisted women's spouses also work, these couples would have less flexibility to handle child care problems since both parents are (most likely) working. Another factor for the enlisted woman may be the family's "greediness." At reenlistment time, she may weigh seriously the pros and cons of family responsibilities against her military career, more so than a married enlisted man.

Married enlisted personnel whose spouse earns over \$10,000 annually are less likely to be influenced by child care problems. Again, this suggests that the additional income broadens the couples' child care options and lessens the criticality of child care problems in the career decision.

## **2. Factors Affecting The Probability of Child Care-Related Work Interference**

The detailed estimates of all logistic regression procedures estimated on the entire survey population are presented in Appendix F. Data on single officers and enlisted personnel were pooled due to the very small sample sizes.

Figure 18 presents the highlights of the logistic models. The results suggest that, for the surveyed population, the presence of an on-site child development center or the use of that center did not significantly affect (i.e., neither increased nor decreased) the incidence of child care-related work interference.

However, for all married personnel, the presence of children under 6 years did tend to increase the probability of experiencing work interference. It is likely that parents tend to worry more about young children, who have greater care needs. A variety of other factors may enter in, including frequent early childhood illnesses that may prevent the child from attending group care facilities, doctor's visits, and other child care arrangement breakdowns which may stabilize when a child begins to attend school.

The probability of experiencing work interference is lower junior personnel (i.e., O-1 through O-3 and E-1 through E-5) who are married. This could be because of smaller family sizes and thus less complex child care arrangements. Generally, junior personnel have less job responsibility (i.e., non-supervisory positions), which may allow them greater flexibility in balancing the demands of family and work.

	MARRIED		SINGLE
	OFFICER	ENLISTED	
MILITARY CENTER			
[USE OF MILITARY CENTER]			
PRESCHOOL CHILDREN			
REPORTS WORK INTERFERENCE	+	+	+
NON-WHITE			
OFFICER/ENLISTED STATUS	+ (*)		
FEMALE		+	
SOME COLLEGE			
[SPOUSE WORKS FULL-TIME]	+		
[SPOUSE MAKES HIGH SALARY]		-	

Legend: "+"=positive correlation; "-"=negative correlation  
 (\*)=junior officers with center only

Note: Single officers & enlistees were pooled due to small sample size

Figure 18. Significant Factors That Increase/Decrease the Probability That a Member's Child Care Experiences Will Influence His/Her Decision to Remain in or Leave the Navy.

Married enlisted women have a lower probability of experiencing work interference if they are assigned to commands with on-site child care facilities. This suggests that the on-site center relieves some of the stresses these women may otherwise experience. Note that single women parents have an increased probability of work interference. Their single income and lack of a parenting partner may result in more work interruptions due to family obligations. The probability of work interference is higher for married enlisted personnel who have attended some college but have not earned a degree.

Married personnel whose spouses work full-time have a higher probability of experiencing work interference. Again, a working spouse lowers the couple's flexibility and may place greater pressure on the military member to share more of the burden of family obligations, resulting in increased work interruption.

## **VI. SUMMARY AND CONCLUSIONS**

### **A. LIMITATIONS OF SURVEY RESULTS**

Although no two installations can be perfectly matched in all demographic and economic aspects, an attempt was made to obtain a general similarity in types of commands, demographics of personnel assigned, and local economic factors. However, the comparisons of commands were not validated through formal statistical survey techniques. Thus, due to the restricted distribution, time, and funding limitations of this survey, the results may not be representative of the opinions and behavior of all active-duty Navy parents. The eight commands surveyed were shore-based and not evenly distributed throughout the geographic regions of the United States. Six of the eight commands were located on the east coast, one on the west coast and one in the middle-Pacific region. A more representative sample could be obtained by surveying a mix of deploying and shore-based commands which are more evenly distributed throughout Naval bases worldwide.

The data were analyzed first with all observations from the eight commands, then reevaluated omitting the observations from the Naval Postgraduate School (NPS), Monterey, CA to determine whether initial results were skewed by the unrepresentative population of officers (primarily men married to homemaker-wives) at NPS. In general, major conclusions were consistent between analyses conducted with and without NPS data. Where differences did occur, however, more credence is given to the analysis without NPS data, as the sample population demographics are more representative of overall active-duty Navy personnel. Data analysis that included NPS, however, may lend greater insight into the specific opinions and behavior trends of Naval officers.

Another important limitation of the study was the lack of evaluation of the cost of all modes of child care available in the surveyed regions. The multivariate regressions indicate, by the significance of the financially-oriented variables "spouse works full time" and "spouse makes a high salary," that the economic considerations of the child care issue need further study.

## **B. SUMMARY OF BACKGROUND/LITERATURE REVIEW**

### **1. SOCIETAL CHANGES**

Dramatic changes have occurred within recent decades in family structure, societal attitudes, and the labor force. Today, approximately 60 percent of all U.S. families include a working couple; another 20 percent are headed by a single parent (usually a woman); and only 10 percent fit the "traditional" family profile, comprised of a working husband, a homemaker-wife, and children.

The U.S. Bureau of Labor Statistics projects that by 1995, 60 percent of all adult women will be working outside the home [Ref. 19: p. 376]. These women, who will represent an ever-increasing proportion of the available labor pool, will be well-educated and will tend to work even if it is not a financial necessity. However, many women today do work out of financial necessity, either to provide sole support for their families or to supplement their husband's income. Since 80 percent of all working women will probably bear children sometime during their career, the need to care for their children becomes an important issue for employers and for society as a whole.

### **2. ECONOMIC ANALYSIS OF CHILD CARE BENEFITS**

As a parent decides whether or not to work, he or she must weigh the costs of obtaining child care against the benefits to be obtained by earning a wage. Child care "costs" the parent-employee in at least two important ways: in the money spent for the care and in the time consumed to travel to and from the care facility. If the "fixed

costs" of working rise, such as an increase in child care costs, on the margin, the wage demanded by an individual to join the workforce rises also. For example, a military employee (or prospective recruit) may react to such a fixed-cost increase by taking a second job (i.e., "moonlighting") to obtain more income, or may decide to drop out of the workforce, either by not reenlisting, getting discharged early, or deciding not to enlist initially.

Similarly, if the fixed costs of working are reduced, such as by providing employer-subsidized child care services, theory asserts that some employees would reduce their hours of work and others would be induced to join the labor force.

The employer's costs of providing child care services may include facility maintenance, staff salaries, equipment costs, and liability insurance. In need of further study are the costs of not providing child care: the cost of lessened job productivity, morale, and employee effectiveness (including lessened promotability).

Employer-sponsored child care is frequently treated as a fringe benefit, and it can be used to attract certain types of job applicants. In 1989, 45 percent of enlisted personnel were married, with almost 30 percent (including single and married members) claiming a dependent under age 13 [Ref. 33]. An increasing number of the spouses in these families will also work outside the home. If the Navy "enlists individuals and reenlists families," this could be an important benefit to induce talented service members with young families to continue their active-duty careers.

### **3. PREVIOUS CHILD CARE STUDIES**

Several valuable studies of child care in the civilian sector suggest that companies which have implemented child care programs strongly feel that the benefits have outweighed the costs (although there is little concrete data on worker productivity to actually support this claim). The most common benefits cited were a reduction in



turnover, enhanced response to recruitment efforts, a better public image, increased productivity, and lower absenteeism. The employer's monetary costs will vary depending on the type of program(s) implemented, ranging from the high-cost on-site child care center to a low-investment information and referral service.

Several studies have attempted to capture the human factor costs of not providing child care assistance to working parents. Although employees are often reluctant to admit experiencing family-related work interference, some studies report that parents believe their competitiveness is lessened because of work time lost due to family responsibilities. Men and women alike appear to experience stress in balancing their home and work roles, much of which could be attributed to unstable or inadequate child care arrangements. Working parents also tend to have higher rates of absenteeism than do non-parent employees.

Several studies indicate that a majority of parents prefer to have a relative care for their children. Since this is often difficult to arrange, parents of very young children tend to prefer individualized care (which may include a small group in a home setting) over institutionalized care. Group care appears to be a common choice for slightly older children, ages one through five.

### **C. SUMMARY OF METHODOLOGY**

A written survey was developed and administered at eight Navy shore establishments--four that offered on-site child development centers and four that did not--which were suggested for study by Commander, Naval Military Personnel Command (NMPC-65). An attempt was made to maintain similarity between the commands in terms of command mission, demographics of personnel assigned, and local economic factors to enhance the basis for comparison.

Names of active-duty personnel with dependents under age 13 who were assigned (as of December 1989) to the selected commands were identified by matching the Department of Defense Master and Loss files (maintained by the Defense Manpower Data Center, Monterey, California), to the Defense Enrollment Eligibility Reporting System (DEERS) files.

Cross-tabulations and logistic regressions were conducted on the survey data using the SAS statistical program. The analysis was conducted twice: once with data from all commands and a second time excluding data from the Naval Postgraduate School. The second analysis was an attempt to eliminate any bias in the results that may have been attributable to the school's large officer population.

#### **D. MAJOR CONCLUSIONS**

**-The presence and use of an on-site child development center does not significantly reduce or increase the incidence of child care-related work interference among the surveyed military parents.**

The data suggest that the usage rate of military child development centers is quite low, although this may be due to a lack of space available at the centers.

Over 77 percent of the surveyed parents assigned to bases with on-site child development centers have children under the age of 6; however, less than 13 percent of these parents choose (or are able) to use the on-site facilities. When the large officer population of NPS Monterey was removed from the analysis, the percentage of parents on bases with on-site centers with children under age 6 dropped to 67 percent; still, only 13 percent of these parents choose (or are able) to use the on-site center.

Approximately three-fourths of the respondents who were not using their base's on-site facilities mentioned the reasons on the survey. Forty percent said that, although they would use the center, there was no space available for their children.

Those who indicated they would not use the on-site center even if space were available cited incompatibility with their work schedule, dissatisfaction with the center's quality, the inconvenience of the system for scheduling children for drop-in care, dissatisfaction with the cost, the distance of their residence from the center, a general preference for other types of care arrangements, and the center's inability to care for sick children.

**-The incidence of work interference tends to increase with the presence of preschool children, in families with a full-time working spouse, for single women parents, and for married enlisted personnel with some college education. Work interference appears to lessen for junior officers, junior enlisted personnel, and married enlisted women.**

Children under 6 years of age tend to have greater care needs and usually require close supervision. This places a greater responsibility on the parent. Child care arrangements are prone to break down; especially if more than one type of care is used during the span of the work day. Also, the frequency of early childhood illnesses may tend to increase work interference for these parents.

In families where both parents work full-time, the parents probably share the burden of family responsibilities more equally than in a family where one partner is at home. Since a full-time working spouse does not have as much flexibility to take care of family problems, the military member probably assumes more of the burden and therefore experiences more work interference.

Conversely, single women parents demonstrate an increased incidence of work interference. Their single income and lack of a parenting partner may result in more work interruptions. The data suggest that, although females use on-site child development centers in greater proportion than males, there are no statistical differences between the usage rates of married and single personnel or enlistees and

officers. Therefore, it is difficult to isolate whether the presence of an on-site facility significantly relieves any of the work interferences that may be experienced by single women parents.

Married enlisted women assigned to bases with on-site child development centers reported a lower level of work interference than did other military parents. This suggests that the on-site center relieves some of the stresses these women may otherwise experience. The data show that a larger proportion of women (24 percent) than men (14 percent) use on-site child development centers. Without the NPS data, this gap increases to 28 percent for women and 10 percent for men.

Married junior personnel (officers and enlistees) may tend to have smaller families, and thus have less complicated child care arrangements than do parents with larger families with several older children. Additionally, junior personnel would generally have less responsibility assigned to their jobs, and may be more flexible to take care of family responsibilities without greatly affecting their work.

**Single parents and personnel assigned to installations without on-site child development centers tend to experience more work interference than do married personnel and those assigned to installations with on-site child development centers.**

A larger proportion of single personnel than married personnel reported experiencing stress (41 percent), financial difficulties (34 percent), tardiness (28 percent), loss of mobility (25 percent), having to bring children to work for lack of other child care arrangements (23 percent), having difficulty standing night watches because of difficulty finding child care providers (23 percent), low motivation (17 percent), and having to change a job or rating for child care-related reasons (9 percent).

Personnel assigned to commands without an on-site child development center consistently report a higher incidence of financial difficulties (30 percent), loss of mobility (18 percent), having to take a second job (17 percent), and taking their children

to work for lack of other child care arrangements (14 percent), than do personnel assigned to commands with on-site facilities.

Almost 20 percent of personnel at commands without on-site child care report that they have been tardy due to child care problems. When NPS data are excluded from the analysis, this proportion is significantly higher than among those personnel at commands with on-site centers. This suggests that having a child development center located at the worksite may alleviate minor absences.

These data suggest that for this population, an on-site child development center may help relieve some of the financial burden of paying for child care, since military fees are generally lower than those in the civilian sector. The on-site center would not normally be able to relieve the child care problems associated with participating in short-term exercises or having unusual work hours.

The effectiveness of the Family Home Care (FHC) program in relieving these last two types of problems needs further study. At the time of this survey, two commands without on-site centers had only limited access to non-Navy FHC programs. One also had access to a limited program in a nearby Navy housing complex. Another command's FHC program was still in the development stage. Therefore, the true effect of an FHC program is not reflected in these data.

**-The presence and use of an on-site child development center do not appear to affect the probability that a member's child care experiences will influence his or her career decisions.**

An average of 30 percent of survey respondents (omitting NPS) reported that their child care experiences influenced their decision to remain in the Navy or to leave. There was no statistical difference between the proportions of personnel at commands with or without on-site child care facilities who reported such influence.

When the large population of NPS officers was included in the analysis, however, the data suggested that the career decisions of personnel at commands without an on-site child development center were significantly more influenced by child care-related issues than those of personnel at commands with on-site centers. This supports the results of the cross-tabulation concerning influence by officer/enlisted status: for this survey population, enlisted personnel (32 percent) demonstrate a much greater likelihood than officers (11 percent) of being influenced by their child care experiences as they decide whether to remain the Navy.

From the multivariate logistic regression models, it was found that a member's child care experiences have a higher probability of influencing the career decision if the member is experiencing child care-related work interference.

Married junior officers (O-1 through O-3) assigned to commands with on-site child development centers tend to consider the influence of their child care experiences as they make the decision to continue or discontinue their military careers. Officers in this age group may have younger children, who, as noted above, require careful supervision and tend to be more disruptive to a working parent's schedule. At the expiration of an initial obligation, and before committing to a twenty-year military career, a junior officer would seriously consider all aspects of his or her family responsibilities, including child care, on a military career.

Married enlisted women also tend to report more child care-related influence in their career decision. This may be attributable in part to the family's increased "greediness" for women. At reenlistment time, she may seriously weigh the pros and cons of family responsibilities against her military career, moreso than a married enlisted man.

Married officers whose spouses work full-time report a higher probability of child care experiences influencing their career decision. Again, two working parents decreases

the flexibility of the couple to handle family crises. On the other hand, the increased household income may expand the child care alternatives available to the couple.

Married enlisted personnel whose spouses earn over \$10,000 a year tend to experience less child care-related influence on their career decision. Possibly, the increased household income lessens the criticality of the child care issue at reenlistment time, as the couple has more child care alternatives from which to choose.

**-Among the military members who reported that their child care experiences have influenced their career decision, proportionately more people were likely to leave the Navy than to remain in it.**

Omitting the NPS data, the proportions of personnel who were influenced negatively (i.e., more likely to leave the Navy) and positively (i.e., more likely to stay in the Navy) did not statistically differ by officer/enlisted status, marital status, or command type.

However, 19 percent of the survey respondents said they were more likely to leave the Navy as a result of their child care experiences, versus 8 percent who said they were more likely to stay in the Navy. This may be attributed to the fact that if one is not experiencing major child care problems or related work interferences, this "ideal" situation is considered "as it should be", normal, and thus not a critical issue considered at the time when career decisions are made. For those who have had problems, however, child care becomes a major issue, and members may be prone to believe that the situation would improve if they were employed in the civilian sector. These data suggest that child care may be an example of Herzberg's "hygiene factors". As child care is an issue of job "context" (as opposed to job "content"), child care problems become a "dissatisfier," whereas the absence of child care problems does not necessarily "satisfy" an employee. [Ref. 34]

**-Military parents prefer spousal care for their children, but, barring that, tend to choose individualized (as opposed to institutionalized) care settings and military facilities over civilian facilities.**

For the surveyed population, spouses are the primary care providers. With the large number of non-employed officer spouses in the NPS observations, 62 percent of spouses were a major source of child care. Without the NPS spouses, 50 percent of spouses provided primary care for their children. Non-relative hirees were the second most frequent choice for child care (21 percent with NPS data and 25 percent without NPS data). When all commands were analyzed, the military child development center was ranked third (12 percent) and relatives ranked fourth (9.5 percent). When NPS data were removed from the analysis, relatives ranked third (12 percent usage rate) and military child development centers ranked fourth (9 percent).

The respondent use rate of military FHC facilities is probably understated, because two of the surveyed commands did not have active programs and two had only limited access to non-Navy facilities or the limited program in a Navy housing complex.

Overall, parents in this sample appear to prefer individual (as opposed to institutionalized) care settings for their children. Thus, a spouse, relative, or non-relative hiree is preferred over one of the group-care alternatives.

The respondents also demonstrated a preference for military-sponsored care over civilian-sponsored programs. Over 12 percent of respondents were using a military child development center, compared with less than 8.5 percent who were using a civilian child care center. This may be attributed to the generally lower cost of a military center, greater regulation of operating standards, and convenience of location.

Although the desired usage rate for the military FHC program is probably understated, as explained earlier, 6 percent of the respondents were using FHC facilities, compared with 3 percent who were using civilian family day care homes.



## **E. RECOMMENDATIONS FOR FURTHER STUDY**

A thorough cost-benefit analysis of all child care alternatives available to Navy personnel is recommended. The study should survey a representative mix of commands, including shore establishments and operational commands in all geographic areas with Navy presence, those who deploy for short periods, and those who require shift-work.

Future research should take into consideration the cost of civilian sector child care facilities, local economic factors, and the service member's household income to determine the financial impact of child care on a service member.

Future studies could determine whether a cooperative effort between the military and civilian child care providers (such as contracting to civilian sources or buying child care spaces in civilian facilities) could increase the supply of quality child care for service members at lower cost. Questions of liability and control over the civilian care providers must also be addressed in detail.

Future research should also explore whether on-site child care centers are contributing significantly to personnel productivity, morale, and retention, or whether comparable benefits could be obtained by using a variety of less capital-intensive programs.

FHC programs require less investment and generally provide much of the flexibility required by Navy personnel, who often work shifts, stand night watches, and participate in short exercises away from homeport. Some facilities are also able to take care of mildly-ill children (which was an objection raised by some people concerning the on-site child development center). The FHC setting is also responsive to the general parental preference for more individual care in a home environment. Future research is needed to explore ways to provide greater incentives for military spouses to become FHC providers. Additional financial and non-pecuniary incentives may tend to increase

the supply of FHC providers and help to stabilize the number of available FHC openings.

## APPENDIX A

### COMPARISON OF COMMANDS

**Legend:** County population data source is 1969 *Handbook of Commercial Atlas and Marketing Guide*, 126th ed., Chicago, 1969. Local population data source is *Handbook of Commercial World Atlas*, 1967. Effective Buying Income: 1967 figure from U.S. Dept. of Labor, Bureau of Labor Statistics, CFI Detailed Report, OCT 89. Gross personal income less personal taxes and non-tax payments (such as fines, fees and penalties). Also includes compensation made to military and diplomatic personnel overseas. Statistic refers to the county, not the individual city. Consumer Price Index data source is U.S. Dept. of Labor, Bureau of Labor Statistics, CFI Detailed Report, OCT 89. Index is based on prices of food, clothing, shelter, fuels, transportation, medical and other living expenses. The base period "market basket" of goods and services cost \$100.00 in 1982-1984. Median Household Income is 1967 figure. Source is U.S. Dept. of Labor, Bureau of Labor Statistics, CFI Detailed Report, OCT 89.

## APPENDIX B

### QUESTIONNAIRE ON MILITARY SPONSORED CHILD CARE SERVICES

This study is being conducted in partial fulfillment of a Master's Degree in Manpower, Personnel and Training Analysis at the Naval Postgraduate School, Monterey, California. It is designed to find out if the presence or absence of an on-site child care facility affects your work productivity, morale and career intentions. Navy files show you have a dependent child 12 years of age or younger. The questions are easy and should only take a few minutes to answer, so please respond today if possible, but no later than \_\_\_\_\_. No postage is required. Please seal your completed form in the envelope provided and return it to your command's project officer, \_\_\_\_\_. Your honest responses will be very important in determining the value of child care services. You may write additional comments in the space provided or attach additional pages if necessary. No individual identification will be used and your answers will be kept in strictest confidence. Thank you for your cooperation.

---

#### PRIVACY ACT STATEMENT

The Privacy Act of 1974 (Public Law 93-573) requires that you be given the following information about this survey:

**AUTHORITY:** The authority to solicit the information requested in this survey is Title 38, Section 1642 of the United States Code.

**PURPOSE:** The information obtained from the survey will be used to evaluate the value of military-sponsored child care services with respect to perceived personnel productivity, morale and retention decisions.

**USES:** Your survey responses will be treated as confidential. The information will be used for research and analysis purposes only. Only group statistics will be studied and reported. This survey is being conducted as part of a student academic program at the Naval Postgraduate School, Monterey, California.

**EFFECTS OF NON-DISCLOSURE:** Participation in the survey is voluntary. No penalty will be imposed for failure to respond to any particular question. However, your participation is encouraged so that the data will be complete and representative.

---

1. What is your marital status?

Single (Separated, divorced, widowed, or unmarried) \_\_\_\_\_  
Married \_\_\_\_\_

2. What are the ages of the children in your immediate care?  
Please show the number of children in each age category.

<u>Age Group</u>	<u>Number of children in this age group</u>
Infant (less than 1 year)	_____
Pretoddler (1 year-less than 2 years)	_____
Toddler (2 years-less than 3 years)	_____
Preschool age (3-5 years)	_____
School age (6-12 years)	_____

3. What type of child care are you currently using? Check all  
that apply.

Spouse or living partner stays at home with children \_\_\_\_\_  
Relative other than spouse watches children \_\_\_\_\_  
Non-relative hired to watch children \_\_\_\_\_  
Family Home Care Program (military sponsored) \_\_\_\_\_  
Family Day Care Home (privately sponsored) \_\_\_\_\_  
Civilian-run day care center \_\_\_\_\_  
Military-run day care center \_\_\_\_\_  
Supervised after-school (extended) care \_\_\_\_\_  
Other (Please describe) \_\_\_\_\_

4. Does your military installation offer a referral service to  
assist you in locating child care?

No \_\_\_\_\_  
Yes \_\_\_\_\_  
Don't know \_\_\_\_\_

5. If a referral service is offered, have you used it?

No \_\_\_\_\_  
Yes \_\_\_\_\_  
Does not apply. No referral service offered. \_\_\_\_\_

6. During the past year, has a child care problem interfered with  
your work?

No \_\_\_\_\_  
Yes \_\_\_\_\_  
If yes, how often? Number of times: \_\_\_\_\_

7. Below is a list of several ways child care problems may affect you or your work. Have you experienced any of these? Please check all that apply to you for your current duty station.

No problems or pressures experienced \_\_\_\_\_ (Go to question 9)

Increased worry or stress \_\_\_\_\_

Tardiness \_\_\_\_\_

Unplanned absence from work \_\_\_\_\_

Increased errors in work \_\_\_\_\_

Less motivation \_\_\_\_\_

Spend extra time on the telephone dealing with child care problems \_\_\_\_\_

Financial difficulties \_\_\_\_\_

Forced to take extra civilian job ("moonlight") \_\_\_\_\_

Forced to take personal leave \_\_\_\_\_

Forced to change job or rating to \_\_\_\_\_

accommodate child care needs \_\_\_\_\_

Loss of mobility (problems with participating in special drills, less willing to move or attend special schools due to child care limitations) \_\_\_\_\_

Forced to bring children to the workplace \_\_\_\_\_

Difficulty standing mid-watches due to problems finding nighttime caregiver for children \_\_\_\_\_

Other \_\_\_\_\_

-----  
THE NEXT TWO QUESTIONS ARE FOR THOSE WHO HAVE AN ON-SITE CHILD DEVELOPMENT CENTER AT THEIR CURRENT DUTY STATION. IF YOUR DUTY STATION DOES NOT HAVE AN ON-SITE CHILD DEVELOPMENT CENTER, PLEASE SKIP TO QUESTION 10.  
-----

8. If your base has an on-site child development center, has it relieved any of the work problems or pressures listed above?

No \_\_\_\_\_ (please explain if you answered "no") \_\_\_\_\_

Yes \_\_\_\_\_

9. If your base has an on-site child development center and you are not using the service, please show the reasons below (check all that apply):

It is inconvenient (please explain) \_\_\_\_\_

I prefer other type of child care arrangements \_\_\_\_\_

There is no space available for my children at the center \_\_\_\_\_

Other \_\_\_\_\_

-----  
THE NEXT QUESTION IS FOR THOSE WHO DO NOT HAVE AN ON-SITE CHILD DEVELOPMENT CENTER AT THEIR CURRENT DUTY STATION. IF YOUR DUTY STATION HAS AN ON-SITE CHILD DEVELOPMENT CENTER, PLEASE SKIP TO QUESTION 11.  
-----

10. If your base does not have an on-site child development center, do you believe that having such a service would relieve any of the work problems or pressures listed in question #7?

No \_\_\_\_\_  
Yes \_\_\_\_\_

11. Have your child care experiences influenced your decision to remain in the Navy?

No \_\_\_\_\_  
Yes, it has influenced me \_\_\_\_\_  
If yes, has the influence been positive or negative?  
Positive (more likely to stay in the Navy) \_\_\_\_\_  
Negative (more likely to leave the Navy) \_\_\_\_\_  
Please explain your answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To help in my analysis of the responses to this questionnaire, I need to have a few items of background information. Would you please mark the appropriate boxes below to indicate your:

12. Age:

18 or under \_\_\_\_\_ 19-24 \_\_\_\_\_ 25-39 \_\_\_\_\_ 40 or over \_\_\_\_\_

13. Paygrade:

E-1 _____	E-7 _____	O-1 _____	WO-1 _____
E-2 _____	E-8 _____	O-2 _____	WO-2 _____
E-3 _____	E-9 _____	O-3 _____	WO-3 _____
E-4 _____		O-4 _____	WO-4 _____
E-5 _____		O-5 _____	
E-6 _____		O-6 _____	

14. Sex:

Male \_\_\_\_\_  
Female \_\_\_\_\_

15. Race:

White/Caucasian \_\_\_\_\_ Black \_\_\_\_\_ Hispanic \_\_\_\_\_  
Asian \_\_\_\_\_ Other \_\_\_\_\_

16. Education (Indicate the highest level completed):

Did not complete high school \_\_\_\_\_  
High school equivalency certificate (GED, for example) \_\_\_\_\_  
High school graduate \_\_\_\_\_  
Vocational or technical school after high school \_\_\_\_\_  
Some college, but no degree \_\_\_\_\_  
Two-year college degree (Associate Degree) \_\_\_\_\_  
Four-year college degree (Bachelors Degree) \_\_\_\_\_  
Advanced degree \_\_\_\_\_

17. If you have a spouse, is he/she employed for pay?

No \_\_\_\_\_  
Yes \_\_\_\_\_

If yes, is the work: full time \_\_\_\_\_  
part time \_\_\_\_\_

Is your spouse a member of the active-duty military?

No \_\_\_\_\_  
Yes \_\_\_\_\_

-----  
YOUR SPOUSE'S INCOME IS VERY IMPORTANT TO THE TYPES OF CHILD CARE  
AVAILABLE TO YOU. PLEASE CHECK THE LEVEL OF YOUR SPOUSE'S INCOME  
FOR CALENDAR YEAR 1989.  
-----

18. Spouse's Income for 1989: \$4,999 or less \_\_\_\_\_  
\$5,000-\$9,999 \_\_\_\_\_  
\$10,000-\$14,999 \_\_\_\_\_  
\$15,000-\$24,999 \_\_\_\_\_  
\$25,000-\$39,999 \_\_\_\_\_  
\$40,000 or more \_\_\_\_\_

19. Please offer any additional comments you may have regarding  
your past experience with child care and its effects on your  
decision to work, your effectiveness on the job, your decision to  
continue or discontinue active duty, etc. Your comments may  
include all of your civilian and military work experiences.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**THANK YOU FOR TAKING THE TIME TO ANSWER THIS QUESTIONNAIRE.**

If you have any questions or comments, you may contact me at:

LCDR D. Lofink, USN autovon 878-2536 (leave a message and I will  
return your call)

Mailing address: LCDR D.L. Lofink, USN, SMC 1263, Naval  
Postgraduate School, Monterey, CA 93943-5000



## APPENDIX C

### SAMPLE OF LETTER SENT TO SURVEYED COMMANDS' PROJECT OFFICERS

12 March 1990

Dear \_\_\_\_\_.

Enclosed are survey forms for distribution to individuals at your command who have dependents under the age of 13 years. The results will be used for my master's thesis which investigates the affect that on-base child care services have on personnel productivity, morale and retention. To isolate this data, I am surveying four commands which have on-base child care centers and four which do not have such facilities.

Please deliver the closed letter from the Director, MWR Division (N-65) to your commanding officer.

To recapitulate our previous conversation, I will explain the nature and methodology of the survey. Briefly, each survey has been labeled for a service member who has a dependent less than 13 years of age. My list was compiled by the Defense Manpower Data Center, Monterey, CA, and is current as of December 1989. Obviously, a small percentage of personnel have been transferred since that date. Please do not distribute their surveys to another member. I ask that those questionnaires be returned unanswered with the completed questionnaires so I can adjust my sample size figures accordingly.

I have stamped a "date due" on the questionnaires that hopefully will allow the members a reasonable time to complete them and return them, sealed and anonymous, to you for batch mailing back to the Naval Postgraduate school (c/o LCDR D.L. Lofink, SMC 1263, Naval Postgraduate School, Monterey, CA 93943-5000).

I had to estimate mailing and distribution time, so if the indicated due date is unreasonable because of mail delivery delays, please use your professional judgement in adjusting it somewhat. My guideline would be for the members to return them to you within 48 hours. Experts in surveying technique advise that people tend to procrastinate in filling out a questionnaire if the due date is too far into the future.

This project is a high interest item for the Deputy Assistant Secretary of the Navy for Manpower and NMPC-65, so your command's maximum participation is of great importance. If questions arise, please feel free to call me at commercial (408) 646-2536 or autovon 878-2536. I will return your call as soon as possible. Your assistance as command point of contact is sincerely appreciated.

Respectfully,

D.L. Lofink  
LCDR      USN

## APPENDIX D

### SAS STATISTICAL PROGRAM CODE

\* LOGIT AND CROSSTABS FOR MARRIED/SINGLE/OFFICER/ENLISTED;  
DATA A;

INPUT

UIC	1-5
MARRIED	6
INFANT	7-8
PRETODD	9-10
TODDLER	11-12
PRESCHOL	13-14
SCOLAGE	15-16
SPOUSE	17
RELATIVE	18
HIREE	19
MILFHC	20
CIVFDC	21
CIVCTR	22
MILCTR	23
EXTCARE	24
REFERRAL	25
USEREFER	26
INTRFERE	27
NUMBER	28-29
NOPROBLM	30
STRESS	31
TARDY	32
ABSENCE	33
ERRORS	34
MOTIVE	35
PHONE	36
MONEY	37
MOONLITE	38
LEAVE	39
CHNGJOB	40
MOBILITY	41
KID2WORK	42
NITEWTCH	43
CTRHELP	44
NOTHANDY	45
PREFER	46
SPACELMT	47
NEEDCTR	48
INFLUNS	49

POSITIV	50
ACECAT	51
PAYGRD	52-53
SEX	54
RACE	55
EDUCATN	56
SPOUSEWK	57
FULLTIME	58
ACDUMATE	59
MATSALRY	60

;  
CARDS;

\*DATA SET FOR ALL PEOPLE/ALL COMMANDS;

DATA IN;

SET A;

\*DUMMY VARIABLE FOR PRESCHOOL OR SCHOOL AGE KIDS;

IF INFANT>=1 OR PRETODD>=1 OR TODDLER>=1 OR PRESCHOL>=1

THEN PRESKOOL=1;

ELSE PRESKOOL=0;

\*GROUPING COMMAND TYPES BY PRESENCE OF ON-SITE CHILDCARE

\* CENTER;

IF UIC=31405 OR UIC=00950 OR UIC=00178 OR UIC=00109

THEN ONSITE=1;

ELSE IF UIC=00171 OR UIC=00788 OR UIC=62269 OR UIC=3-268

THEN ONSITE=0;

\*DUMMY VARIABLE FOR WHETHER THOSE ON BASES WITH MILITARY;

\*CHILDCARE CENTERS ACTUALLY USE THOSE CENTERS;

IF ONSITE=1 AND MILCTR=1 THEN USECTR=1;

ELSE IF ONSITE=1 AND MILCTR=0 THEN USECTR=0;

ELSE IF ONSITE=1 AND MILCTR=. THEN USECTR=.;

\*DUMMY VARIABLES SEPARATING OFFICER FROM ENLISTED

\*(BASE CASE IS ENL);

IF PAYGRD>=10 THEN RANK=1;

ELSE IF PAYGRD<=9 THEN RANK=0;

ELSE RANK=.;

\*DUMMY VARIABLES FOR JUNIOR PAYGRADES E-5 AND BELOW,

\*0-3 AND BELOW AND; WO1 AND WO2;

IF PAYGRD<=5 OR PAYGRD=10 OR PAYGRD=11 OR PAYGRD=12

THEN JUNIOR=1;

ELSE IF PAYGRD=6 OR PAYGRD=7 OR PAYGRD=8 OR PAYGRD=9 OR

PAYGRD>=13 THEN JUNIOR=0;

ELSE JUNIOR=.;

\*DUMMY VARIABLE FOR SEX: MALE IS BASE CASE;

IF SEX=2 THEN FEMALE=1;

ELSE IF SEX=1 THEN FEMALE=0;

ELSE FEMALE=.;

\*DUMMY VARIABLE FOR RACE: BASE CASE IS WHITE;

IF RACE>=2 THEN NONWHITE=1;

ELSE IF RACE=1 THEN NONWHITE=0;

ELSE NONWHITE=.;

\*DUMMY VARIABLE FOR EDUCATION;

```

*BASE CASE IS HSDG, VOCATIONAL SCHOOL OR LESS;
IF EDUCATN>=5 THEN SOME COLL=1;
  ELSE IF EDUCATN<=4 THEN SOME COLL=0;
  ELSE SOME COLL=. ;
*INTERACTION VARIABLE FOR FULLTIME WORKING SPOUSE;
IF SPOUSEWK=1 AND FULLTIME=1 THEN SPOUSFUL=1;
  ELSE SPOUSFUL=0;
*INTERACTION VARIABLE FOR SALARY LEVEL OF WORKING SPOUSE;
*BASE CASE IS <$10k;
IF MARRIED=1 AND SPOUSEWK=1 AND MATSALRY>=3 THEN HIGHSAL=1;
  ELSE IF MARRIED=1 AND SPOUSEWK=1 AND MATSALRY<3 THEN
    HIGHSAL=0;
  ELSE IF MARRIED=1 AND SPOUSEWK=. OR MATSALRY=. THEN
    HIGHSAL=. ;
PROC FORMAT;
  VALUE CMDTYPE      0='NO-ONSITE'
                    1='ONSITE';
  VALUE GENDER       0='MALE'
                    1='FEMALE';
  VALUE MARITAL      0='SINGLE'
                    1='MARRIED';
  VALUE STATUS       0='ENLISTED'
                    1='OFFICER'
                    .='MISSING';
  VALUE AGE          1='18 OR UNDER'
                    2='19-24'
                    3='25-39'
                    4='40 +';
  VALUE COLOR        1='WHITE'
                    2='BLACK'
                    3='HISPANIC'
                    4='ASIAN'
                    5='OTHER';
  VALUE SKOOL        1='NONHSG'
                    2='GED'
                    3='HSG'
                    4='TECHSCOL'
                    5='SOMCOL'
                    6='ASSOC'
                    7='BACH'
                    8='GRADSCOL';
  VALUE WIFE         0='NO'
                    1='YES'
                    2='NOTWORKING'
                    3='N/A: SINGLE';
  VALUE WORK         0='PARTTIME'
                    1='FULLTIME'
                    2='NOTWORKING'
                    3='N/A: SINGLE';
  VALUE ACUWIFE      0='NO'
                    1='YES'

```

```

                2='NOTWORKING'
                3='N/A:SINGLE';
VALUE REFSVC    0='NO'
                1='YES'
                3='DONTKNOW'
                .='MISSING';
VALUE USEREF    0='NO'
                1='YES'
                3='N/A'
                .='MISSING';
VALUE PROBLEM   0='NO'
                1='YES'
                .='MISSING';
VALUE OPTION    0='NO'
                1='YES'
                2='N/A'
                .='MISSING';
VALUE STAY      1='STAY'
                0='LEAVE'
                2='N/A'
                .='MISSING';
VALUE PAY       1='E-1'
                2='E-2'
                3='E-3'
                4='E-4'
                5='E-5'
                6='E-9'
                7='E-7'
                8='E-8'
                9='E-9'
                10='O-1'
                11='O-2'
                12='O-3'
                13='O-4'
                14='O-5'
                15='O-6'
                16='CWO-1'
                17='CWO-2'
                18='CWO-3'
                19='CWO-4';
*CREATE DATA SET FOR MARRIED/ALL COMMANDS;
DATA ALLWED;
  SET IN;
  IF MARRIED=1;
*CREATE DATA SET FOR MARRIED OFFICERS/ALL COMMANDS;
DATA ALLMAROF;
  SET ALLWED;
  IF RANK=1;
*CREATE DATA SET FOR MARRIED ENLISTED/ALL COMMANDS;
DATA ALLMAREN;
  SET ALLWED;

```

```

      IF RANK=0;
*CREATE DATA SET FOR SINGLE/ALL COMMANDS;
  DATA LONEFOLK;
  SET IN;
  IF MARRIED=0;
*CREATE DATA SET FOR OFFICERS/ALL COMMANDS;
  DATA ALLBRASS;
  SET IN;
  IF RANK=1;
*CREATE DATA SET FOR ALL SINGLE OFFICERS/ALL COMMANDS;
  DATA ALSINGOF;
  SET ALLBRASS;
  IF MARRIED=0;
*CREATE DATA SET FOR ENLISTED/ALL COMMANDS
  DATA ENLISTED;
  SET IN;
  IF RANK=0;
*CREATE DATA SET FOR SINGLE ENLISTED/ALL COMMANDS;
  DATA ALSINGEN;
  SET ENLISTED;
  IF MARRIED=0;
*CREATE DATA SET FOR MARRIED/COMMANDS WITH ONSITE CENTER ONLY;
  DATA MARWCTR;
  SET ALLWED;
  IF ONSITE=1;
*CREATE DATA SET FOR MARRIED OFFICERS/COMMANDS WITH ONSITE;
*CTR;
  DATA MOFFWCTR;
  SET MARWCTR;
  IF RANK=1;
*CREATE DATA SET FOR MARRIED ENLISTED/COMMANDS WITH;
*ONside CTR;
  DATA MENLWCTR;
  SET MARWCTR;
  IF RANK=0;
*CREATE DATA SET FOR SINGLE/COMMANDS WITH ONSITE CENTER ONLY;
  DATA LONEWCTR;
  SET LONEFOLK;
  IF ONSITE=1;
*CREATE DATA SET FOR SINGLE OFFICERS/COMMANDS WITH ONSITE CTR;
  DATA SINGOFFW;
  SET LONEWCTR;
  IF RANK=1;
*CREATE DATA SET FOR SINGLE ENLISTED/COMMANDS WITH ONSITE CTR;
  DATA SINGENLW;
  SET LONEWCTR;
  IF RANK=0;
*CREATE DATA SET FOR ALL MEMBERS/COMMANDS WITH;
*ONside CENTER ONLY;
  DATA WITH;
  SET IT;

```

```

    IF ONSITE=1;
*CREATE DATA SET FOR ALL MEMBERS/COMMANDS;
*WITHOUT ONSITE CENTERS ONLY;
    DATA WITHOUT;
    SET IN;
    IF ONSITE=0;
PROC FREQ DATA=IN;
    TABLES PRESKOOL*ONSITE;
        FORMAT PRESKOOL OPTION;
        CNSITE CMDTYPE.;
    TABLES (FEMALE MARRIED RANK)*ONSITE;
        FORMAT ONSITE CMDTYPE.
        FEMALE GENDER.
        MARRIED MARITAL.
        RANK STATUS.;
    TABLES (AGECAT)*(UIC ONSITE);
        FORMAT AGECAT AGE.
        ONSITE CMDTYPE.;
    TABLES PAYGRD*(UIC ONSITE);
        FORMAT PAYGRD PAY.
        ONSITE CMDTYPE.;
    TABLES RACE*(UIC ONSITE);
        FORMAT RACE COLOR.
        ONSITE CMDTYPE.;
    TABLES EDUCATN*(UIC ONSITE);
        FORMAT EDUCATN SKOOL.
        ONSITE CMDTYPE.;
*PROFILE OF SPOUSE'S CAREER STATUS BY OFFICER/ENLISTED;
*& COMMAND;
    TABLES SPOUSEWK*(RANK ONSITE);
        FORMAT SPOUSEWK WIFE.
        RANK STATUS.
        ONSITE CMDTYPE.;
    TABLES FULLTIME*(RANK ONSITE);
        FORMAT FULLTIME WORK.
        RANK STATUS
        ONSITE CMDTYPE.;
*PROFILES OF ACTIVE DUTY SPOUSES BY OFFICER/ENLISTED;
*AND COMMAND;
    TABLES ACDUMATE*(RANK ONSITE);
        FORMAT ACDUMATE ACDUWIFE.
        RANK STATUS.
        ONSITE CMDTYPE.;
*PROFILES OF DEPENDENTS TO BE SERVED BY CMD;
    TABLES (INFANT PRETODD TODDLER PRESCHOL SCOLAGE)*
        (UIC ONSITE);
        FORMAT ONSITE CMDTYPE.;
    TABLES (SPOUSE RELATIVE HIREE MILFHC CIVFDC CIVCTR MILCTR
        EXTCARE)*(UIC ONSITE FEMALE MARRIED);
        FORMAT ONSITE CMDTYPE.
        FEMALE GENDER.

```



MARRIED MARITAL.  
 SPOUSE PROBLEM.  
 RELATIVE PROBLEM.  
 HIREE PROBLEM.  
 MILFHC PROBLEM.  
 CIVFDC PROBLEM.  
 CIVCTR PROBLEM.  
 MILCTR PROBLEM.  
 EXTCARE PROBLEM.;

\*INDICATION OF AWARENESS OF REFERRAL SERVICE;  
 TABLES REFERRAL\*(UIC ONSITE):  
 FORMAT REFERRAL REFSVC.  
 ONSITE CMDTYPE.;

\*FREQUENCY OF USE OF REFERRAL SERVICE;  
 TABLES USEREFER\*(UIC ONSITE);  
 FORMAT USEREFER USEREF.  
 ONSITE CMDTYPE.;

\*PRESENCE OF WORK INTERFERENCE BY MARITAL STATUS/COMMAND TYPE;  
 TABLES INTRFERE\*(MARRIED UIC ONSITE);  
 FORMAT INTRFERE PROBLEM.  
 MARRIED MARITAL.  
 ONSITE CMDTYPE.;

\*FREQUENCY OF TYPES OF WORK INTERFERENCE BY MARITAL STATUS  
 \*& COMMAND;  
 TABLE (NOPROBLM STRESS TARDY ABSENSE ERRORS MOTIVE PHONE  
 MONEY MOONLITE LEAVE CHNGJOB MOBILITY KID2WORK  
 NITEWTCH)\*  
 (MARRIED ONSITE);  
 FORMAT MARRIED MARITAL.  
 ONSITE CMDTYPE.;

\*NUMBERS WHO FELT CHILD CARE PROBLEMS;  
 \*INFLUENCED CAREER DECISIONS BY CMD;  
 TABLES (INFLUNS POSITIV)\*(MARRIED RANK UIC ONSITE);  
 FORMAT INFLUNS PROBLEM.  
 POSITIV STAY.  
 RANK STATUS.  
 ONSITE CMDTYPE.  
 MARRIED MARITAL.;

\*NUMBERS WHO ACTUALLY USE AN AVAILABLE ON-SITE CENTER;  
 PROC FREQ DATA=WITH;  
 TABLES USECTR\*(FEMALE RANK MARRIED UIC);  
 FORMAT FEMALE GENDER.  
 RANK STATUS.  
 MARRIED MARITAL.;

\*REASONS GIVEN IF NOT USING AVAILABLE ON-SITE CENTER;  
 TABLES (NOTHANDY PREFER SPACELMT)\*(FEMALE RANK  
 MARRIED UIC);  
 FORMAT FEMALE GENDER.  
 RANK STATUS.  
 MARRIED MARITAL.;

\*PERCEPTIONS ON WHETHER ONSITE CENTER RELIEVES;

```

*STRESSES/INTERFERENCE;
  TABLES CTRHELP*(FEMALE RANK MARRIED UIC);
  FORMAT CTRHELP OPTION.
  FEMALE GENDER.
  RANK STATUS.
  MARRIED MARITAL.;
*PERCEPTIONS ON WHETHER A CENTER WOULD RELIEVE
*STRESS IF AVAIL;
  PROCFREQ DATA=WITHOUT;
  TABLES NEEDCTR*(FEMALE RANK MARRIED UIC);
  FORMAT NEEDCTR OPTION.
  FEMALE GENDER.
  RANK STATUS.
  MARRIED MARITAL.;
*LOGISTIC REGRESSION, ALL MARRIED PERSONNEL, ALL COMMANDS;
  PROC LOGIST DATA=ALLWED;
  MODEL INFLUNS=MILCTR PRESKOOOL INTRFERE NONWHITE RANK
*LOGISTIC REGRESSION FOR INFLUENCE, MARRIED OFFICERS,
*ALL COMMANDS;
  PROC LOGIST DATA=ALLMAROF;
  MODEL INFLUNS=MILCTR PRESKOOOL INTRFERE NONWHITE JUNIOR
  FEMALE EDUCATN SPOUSFUL HIGHSESAL;
*LOGISTIC REGRESSION FOR INFLUENCE, MARRIED ENLISTED,
*ALL COMMANDS;
  PROC LOGIST DATA=ALLMAREN;
  MODEL INFLUNS=MILCTR PRESKOOOL INTRFERE NONWHITE JUNIOR
  FEMALE SOME COLL SPOUSEFUL HIGHSESAL;
*LOGISTIC REGRESSION FOR INFLUENCE, SINGLE PERSONNEL,
*ALL COMMANDS;
  PROC LOGIST DATA=LONEFOLK;
  MODEL INFLUNS=MILCTR PRESKOOOL INTRFERE NONWHITE RANK
  FEMALE SOME COLL;
*LOGISTIC REGRESSION FOR INFLUENCE, USECTR:
*ALL MARRIED/CMDS W/CTR;
  PROC LOGIST DATA=MARWCTR;
  MODEL INFLUNS=USECTR PRESKOOOL INTRFERE NONWHITE
  RANK FEMALE SOME COLL
  SPOUSFUL HIGHSESAL;
*LOGISTIC REG: INFLUENCE & USECTR, MARRIED OFFICERS/CMDS;
*WITH CTR;
  PROC LOGIST DATA=MOFFWCTR;
  MODEL INFLUNS=USECTR PRESKOOOL INTRFERE NONWHITE
  JUNIOR FEMALE EDUCATN
  SPOUSFUL HIGHSESAL;
*LOG-REGRESSION ON MARRIED ENLISTED W/CTR,
*LEAVING OUT "SPOUSFUL";
  PROC LOGIST DATA=MENLWCTR;
  MODEL INFLUNS=USECTR PRESKOOOL INTRFERE NONWHITE
  JUNIOR FEMALE SOME COLL HIGHSESAL;
*LOGISTIC REG: INFLUENCE & USECTR, SINGLE PERSONNEL/CMDS;
*WITH CTR;

```

PROC LOGIST DATA=LONEWCTR;  
     MODEL INFLUNS=USECTR PRESKOOOL INTRFERE NONWHITE  
         RANK FEMALE SOME COLL;  
 \*LOGISTIC REG: INTERFERE, ALL MARRIED PERSONNEL/;  
 \*ALL COMMANDS;  
 PROC LOGIST DATA=ALLWED;  
     MODEL INTRFERE=MILCTR PRESKOOOL NONWHITE RANK  
         FEMALE SOME COLL SPOUSFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE, MARRIED OFFICERS/ALL COMMANDS;  
 PROC LOGIST DATA=ALLMAROF;  
     MODEL INTRFERE=MILCTR PRESKOOOL NONWHITE JUNIOR  
         FEMALE EDUCATN SPOUSFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE, MARRIED ENLISTED/ALL COMMANDS;  
 PROC LOGIST DATA=ALLMAREN;  
     MODEL INTRFERE=MILCTR PRESKOOOL NONWHITE JUNIOR  
         FEMALE SOME COLL SPOUSEFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE, SINGLE PERSONNEL/ALL COMMANDS;  
 PROC LOGIST DATA=LONEFOLK;  
     MODEL INTRFERE=MILCTR PRESKOOOL NONWHITE RANK  
         FEMALE SOME COLL;  
 \*LOGISTIC REG: INTERFERE & USECTR, MARRIED PERSONNEL/;  
 \*CMDS WITH CTR;  
 PROC LOGIST DATA=MARWCTR;  
     MODEL INTRFERE=USECTR PRESKOOOL NONWHITE RANK FEMALE  
         SOME COLL SPOUSFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE & USECTR, MARRIED OFFICERS/;  
 \*CMDS WITH CTR;  
 PROC LOGIST DATA=MOFFWCTR;  
     MODEL INTRFERE=USECTR PRESKOOOL NONWHITE JUNIOR FEMALE  
         EDUCATN SPOUSFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE & USECTR, MARRIED ENLISTED/;  
 \*CMDS WITH CTR;  
 PROC LOGIST DTA=MENLWCTR;  
     MODEL INTRFERE=USECTR PRESKOOOL NONWHITE JUNIOR FEMALE  
         SOME COLL SPOUSFUL HIGHSAL;  
 \*LOGISTIC REG: INTERFERE & USECTR, SINGLE PERSONNEL/;  
 \*CMDS WITH CTR;  
 PROC LOGIST DATA=LONEWCTR;  
     MODEL INTRFERE=USECTR PRESKOOOL NONWHITE RANK  
         FEMALE SOME COLL;

## APPENDIX E

### DESCRIPTION OF VARIABLES USED IN STATISTICAL ANALYSIS

VARIABLE (ABBREVIATION)	DESCRIPTION
ACDUMATE	"1" if member's spouse is active duty military; "0" if not; "2" if not applicable.
AGE	"1" if member is 18 years old or less; "2" if 19-24 years; "3" if 25-39; "4" if 40 or older.
CIVCTR	"1" if member uses a civilian run day care center; "0" otherwise.
CIVFDC	"1" if member uses a privately sponsored family day care home program; "0" otherwise.
CTRHELP	"1" if members with on-site facilities at the current duty station believe their work related stresses or pressures were relieved by the center; "0" if not; "2" for members from commands without on-site facilities.
EDUCATN	"1" if member did not complete high school; "2" if member has high school equivalency; "3" if member is a high school graduate; "4" if member attended vocational/technical school after high school; "5" if member attended some college, but no degree held; "6" if member has a 2 year Associate's Degree; "7" if member has 4 year Bachelor's Degree; "8" if member has an advanced degree.
EXTCARE	"1" if member uses a supervised after-school (i.e. extended) care program; "0" otherwise.
FEMALE	"1" if member is female; "0" if male.
FULLTIME	"1" if employed spouse works full time; "0" if employed spouse works part time; "2" if not applicable.
HIGHSAL	"1" if member's spouse earned \$10,000 or more in calendar year 1989; "0" if member's spouse earned \$.01 to \$9,999.
HIREE	"1" if a non-relative is hired to watch children; "0" otherwise.
INFANT	"1" if member has a child less than 1 year old; "0" if not.

INFLUNS	"1" if member's child care experiences have influenced his/her decision to remain in the Navy; "0" if no influence.
INTRFERE	"1" if child care problems have interfered with member's work during the past year; "0" if not.
JUNIOR	"1" if member is E-5 and below or O-3 and below; "0" if otherwise.
MARRIED	"1" if married, "0" if single
MATSALRY	"1" if employed spouse earned \$4,999 or less in calendar year 1989; "2" if \$5,000-\$9,999 earned; "3" if \$10,000-\$14,999 earned; "4" if \$15,000-\$24,999 earned; "5" if \$24,000-\$39,999 earned; "6" if \$40,000 or more earned; "2" if not applicable.
MILCTR	"1" if member uses a military sponsored child development center; "0" otherwise.
MILFHC	"1" if member uses a military sponsored Family Home Care Program; "0" otherwise.
NEEDCTR	"1" if members at commands without on-site facilities believed that such a facility would relieve, in part, reported stresses and pressures; "0" if not; "2" for members from commands with on-site facilities.
NONWHITE	"1" if member is Black, Hispanic or Asian; "0" if White.
NOTHANDY	"1" if members with on-site facilities choose not to use the center because it is inconvenient; "0" if this was not the reason why center was not used; "2" for members from commands without on-site facilities.
NUMBER	Number of times member has experienced work interference due to child care problems during the past year.
ONSITE	"1" if UIC identified as command with an on-site child development center; "0" if not.
PAYGRD	E-1 through E-9 coded 1-9 consecutively; O-1 through O-6 coded 10-15 consecutively; CWO-1 through CWO-4 coded 16-19 consecutively.
POSITIV	"1" if member reported some influence and he/she is more likely to stay in the Navy as a result of child care experiences; "0" if member is more likely to leave the Navy as a result of child care experiences; "2" if member reported no influence.

PREFER	"1" if members with on-site facilities choose not to use the center because he/she does not prefer this type of child care arrangement; "0" if this was not the reason why center was not used; "2" for members from commands without on-site facilities.
PRESCHOL	"Number indicated" if member has a child 3-5 years old; "0" if not.
PRESKOOL	"1" if member reported custody of an infant, pretoddler, toddler, or preschool child (i.e. 5 years old or less); "0" if member reported a schoolage child (6-12 years).
PRETODDLER	"Number indicated" if member has a child 1 year less than 2 years old; "0" if not.
RACE	"1" if White; "2" if Black; "3" if Hispanic; "4" if Asian; "5" if Other.
RANK	"1" if member is an officer; "0" if enlisted.
REFERRAL	"1" if member's current duty station offers a referral service to assist in locating child care; "0" if no service is offered, "3" if member does not know if the service exists.
RELATIVE	"1" if a relative other than spouse watches children; "0" otherwise.
SCOLAGE	"Number indicated" if member has a child 6-12 years old; "0" if not.
SEX	"1" if male; "2" if female.
SOMECOLL	"1" if member has attended some college, (no degree) or higher attainment; "0" otherwise.
SPACELMT	"1" if members with on-site facilities choose not to use the center because space was not available for their children; "0" if this was not the reason why center was not used; "2" for members from commands without on-site facilities.
SPOUSEWK	"1" if member has a spouse who is employed for pay; "0" if spouse not employed for pay; "3" if member does not have a spouse.
SPOUSFUL	"1" if member has a full time working spouse; "0" if part time working spouse.
SPOUSE	"1" if member's spouse was responsible for a part of children's care, "0" if otherwise.
TODDLER	"Number indicated" if member has a child 2 years-less than 3 years old; "0" if not.
UIC	Unit Identification Code of Command.

USECTR "1" if member's base has on-site facilities and if member is using those facilities; "0" if not.

USEREFER "1" if member has used military referral service at current duty station; "0" if not; "3" if not applicable.

Note: the following "work interferences" are implied to be child care related:

ABSENCE "1" if member has had unplanned absence from work; "0" otherwise.

CHNGJOB "1" if member was forced to change jobs or rating to accommodate child care needs; "0" otherwise.

ERRORS "1" if member has had increased errors in work; "0" otherwise.

KID2WORK "1" if member was forced to bring children to the workplace as a mode of child care; "0" otherwise.

LEAVE "1" if member was forced to take personal leave; "0" otherwise.

MOBILITY "1" if member had problems participating in special drills, was less willing to move or attend special schools due to child care limitations; "0" otherwise.

MONEY "1" if member has had financial difficulties; "0" otherwise.

MOONLITE "1" if member was forced to take an extra civilian job; "0" otherwise.

MOTIVE "1" if member has had less motivation; "0" otherwise.

NITEWATCH "1" if member reports difficulty standing night watches due to problems finding child care providers; "0" otherwise

NOPROBLM "1" if member has not experienced any problems or pressures due to child care problems at the current duty station.

PHONE "1" if member spends extra time on the telephone dealing with child care problems; "0" otherwise.

STRESS "1" if member has increased worry or stress; "0" otherwise.

TARDY "1" if member has been tardy; "0" otherwise.

**APPENDIX F**  
**SELECTED CROSSTABULATIONS AND LOGISTIC**  
**REGRESSION RESULTS WITH TEST STATISTICS (Z-VALUES)**

Note: The statistical tables are presented for the analysis with and without data from the respondents of the Naval Postgraduate School (labeled "With NPS Data" and "Without NPS Data," as appropriate). Crosstabulations and results of logistic regressions that were not specifically addressed in the thesis are not reproduced here. Inquiries concerning the complete data base should be addressed to the Department of Administrative Sciences, Naval Postgraduate School, Monterey, California, 93943-5000.

Crosstabulation of Respondents by Gender	
With NPS Data	Without NPS Data
Male	Male
Female	Female
Other	Other

TABLE OF FEMALE BY ONSITE

	FEMALE	ONSITE		
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	INO-ONSITE	ONSITE		TOTAL
	IE			
MALE	175	435		610
	25.36	63.04		88.41
	28.69	71.31		
	87.06	88.96		
FEMALE	26	54		80
	3.77	7.83		11.59
	32.56	67.50		
	12.94	11.04		
TOTAL	201	489		690
	29.13	70.87		100.00

FREQUENCY MISSING = 3

TABLE OF FEMALE BY ONSITE

	FEMALE	ONSITE		
	FREQUENCY			
	PERCENT			
	ROW PCT			
	COL PCT	INO	ONSITE	
		IE		TOTAL
		-----		
	MALE	175	142	317
		46.67	37.87	84.53
$z = 1.46$		55.21	44.79	
		87.06	81.61	
		-----		
	FEMALE	26	32	58
		6.93	8.53	15.47
$z = -1.46$		44.83	55.17	
		12.94	18.39	
		-----		
	TOTAL	201	174	375
		53.60	46.40	100.00

FREQUENCY MISSING = 2



Crosstabulation of Respondents by Marital Status  
With NPS Data Without NPS Data

SAS

TABLE OF MARRIED BY ONSITE

MARRIED	ONSITE		
FREQUENCY	IE	I	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	
SINGLE	34	33	67
	4.91	4.76	9.67
	50.75	49.25	
	16.75	6.73	
MARRIED	169	457	626
	24.39	65.95	90.33
	27.00	73.00	
	83.25	93.27	
TOTAL	203	490	693
	29.29	70.71	100.00

$z = -4.06$

TABLE OF MARRIED BY ONSITE

MARRIED	ONSITE		
FREQUENCY	IE	I	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	
SINGLE	34	27	61
	9.02	7.16	16.18
	55.74	44.26	
	16.75	15.52	
MARRIED	169	147	316
	44.83	78.99	83.82
	53.48	46.52	
	83.25	84.48	
TOTAL	203	174	377
	53.85	46.15	100.00

$z = -0.32$

Crosstabulation of Respondents by Officer/Enlisted Status  
And Command Type  
With NPS Data Without NPS Data

TABLE OF RANK BY ONSITE

RANK	ONSITE		
FREQUENCY	IE	I	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	
ENLISTED	172	164	336
	24.82	23.67	48.48
	51.19	48.81	
	84.73	33.47	
OFFICER	31	326	357
	4.47	47.04	51.52
	8.68	91.32	
	15.27	66.53	
TOTAL	203	490	693
	29.29	70.71	100.00

$z = 12.28$

$z = -12.28$

TABLE OF RANK BY ONSITE

RANK	ONSITE		
FREQUENCY	IE	I	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	
ENLISTED	172	151	323
	45.62	40.05	85.68
	53.25	46.75	
	84.73	86.78	
OFFICER	31	23	54
	8.22	6.10	14.32
	57.41	42.59	
	15.27	13.22	
TOTAL	203	174	377
	53.85	46.15	100.00

$z = 0.57$

Crosstabulation of Distribution of Respondents  
by Age Category And Command Type

With NPS Data Without NPS Data

TABLE OF AGECAT BY ONSITE

AGECAT	ONSITE		
FREQUENCY	INO	ONSITE	TOTAL
PERCENT	IE		
ROW PCT			
COL PCT			
19-24	11	18	29
	1.59	2.60	4.20
	37.93	62.07	
	5.45	3.68	
25-39	167	439	606
	24.17	63.53	87.70
	27.56	72.44	
	82.67	89.78	
40 +	24	32	56
	3.47	4.63	8.10
	42.86	57.14	
	11.88	6.54	
TOTAL	202	489	691
	29.23	70.77	100.00

$z = 1.06$

$z = -2.59$

$z = 2.34$

FREQUENCY MISSING = 2

TABLE OF AGECAT BY ONSITE

AGECAT	ONSITE		
FREQUENCY	INO	ONSITE	TOTAL
PERCENT	IE		
ROW PCT			
COL PCT			
19-24	11	16	27
	2.93	4.26	7.18
	40.74	59.24	
	5.45	9.20	
25-39	167	133	300
	44.41	35.37	79.79
	55.67	44.33	
	82.67	76.44	
40 +	24	25	49
	6.38	6.65	13.03
	48.98	51.02	
	11.88	14.37	
TOTAL	202	174	376
	53.72	46.28	100.00

$z = -1.40$

$z = 1.50$

$z = -0.72$

FREQUENCY MISSING = 1

Crosstabulation of Distribution of Respondents by Paygrade  
And Command Type  
With NPS Data

TABLE OF PAYGRD BY ONSITE

PAYGRD	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	IE	NO-ONSITE	ONSITE	
E-2	1	0	0.14	1
	0.14	0.00		
	100.00	0.00		
	0.50	0.00		
$z = 1.59$				
E-3	0	3	0.43	3
	0.00	0.43		
	0.00	100.00		
	0.00	0.61		
$z = -1.11$				
E-4	8	12	2.89	20
	1.16	1.74		
	40.00	60.00		
	3.96	2.45		
$z = 1.08$				
E-5	66	55	17.51	121
	9.55	7.96		
	54.55	45.45		
	32.67	11.25		
$z = 6.74$				
E-6	62	59	17.51	121
	8.97	8.54		
	51.24	48.76		
	30.69	12.07		
$z = 5.86$				
E-7	22	23	6.51	45
	3.18	3.23		
	48.89	51.11		
	10.89	4.70		
$z = 2.99$				
E-8	8	6	2.03	14
	1.16	0.87		
	57.14	42.86		
	3.96	1.23		
$z = 2.31$				
E-9	4	5	1.30	9
	0.58	0.72		
	44.44	55.56		
	1.98	1.02		
$z = 1.01$				
TOTAL	202	489	691	
	29.23	70.77	100.00	

(CONTINUED)

TABLE OF PAYGRD BY ONSITE

PAYGRD	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	IE	NO-ONSITE	ONSITE	
O-1	1	1	0.29	2
	0.14	0.14		
	50.00	50.00		
	0.50	0.20		
$z = 0.67$				
O-2	0	6	0.87	6
	0.00	0.87		
	0.00	100.00		
	0.00	1.23		
$z = -1.58$				
O-3	10	210	31.84	220
	1.45	30.39		
	4.55	95.45		
	4.95	42.94		
$z = -9.75$				
O-4	14	93	15.48	107
	2.03	13.46		
	13.08	86.92		
	6.93	19.02		
$z = -3.99$				
O-5	4	13	2.46	17
	0.58	1.88		
	23.53	76.47		
	1.98	2.66		
$z = -0.52$				
O-6	1	1	0.29	2
	0.14	0.14		
	50.00	50.00		
	0.50	0.20		
$z = 0.67$				
CHO-2	0	2	0.29	2
	0.00	0.29		
	0.00	100.00		
	0.00	0.41		
$z = -0.91$				
CHO-4	1	0	0.14	1
	0.14	0.00		
	100.00	0.00		
	0.50	0.00		
$z = 1.59$				
TOTAL	202	489	691	
	29.23	70.77	100.00	

FREQUENCY MISSING = 2

# Crosstabulation of Distribution of Respondents by Paygrade And Command Type Without NPS Data

TABLE OF PAYGRD BY ONSITE

PAYGRD	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	INO-ONSITE	ONSITE		
E-2	1	0	0.27	1
	0.27	0.00	100.00	0.27
	0.50	0.00		
z = 0.93				
E-3	0	2	0.00	2
	0.00	0.53	0.00	0.53
	0.00	100.00	0.00	
	0.00	1.15		
z = -1.53				
E-4	8	12	2.13	20
	2.13	3.19	40.00	5.32
	3.96	6.90		
z = -1.27				
E-5	66	50	17.55	116
	17.55	13.30	56.90	30.85
	72.67	28.74		
z = 0.82				
E-6	62	56	16.49	118
	16.49	14.89	52.54	31.38
	30.69	32.18		
z = -0.31				
E-7	22	21	5.85	43
	5.85	5.59	51.16	11.44
	10.89	12.07		
z = -0.36				
E-8	8	6	2.13	14
	2.13	1.60	57.14	3.72
	3.96	3.45		
z = 0.26				
E-9	4	4	1.06	8
	1.06	1.06	50.00	2.13
	1.98	2.30		
z = -0.21				
TOTAL	202	174	53.72	376
			46.28	100.00

(CONTINUED)

TABLE OF PAYGRD BY ONSITE

PAYGRD	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	INO-ONSITE	ONSITE		
O-1	1	1	0.27	2
	0.27	0.27	50.00	0.53
	0.50	0.57		
z = -0.09				
O-2	0	1	0.00	1
	0.00	0.27	0.00	0.27
	0.00	100.00	0.00	
	0.00	0.57		
z = -1.06				
O-3	10	7	2.66	17
	2.66	1.86	58.82	4.52
	4.95	4.02		
z = 0.43				
O-4	14	3	3.72	17
	3.72	0.80	82.35	4.52
	6.93	1.72		
z = 2.42				
O-5	4	8	1.06	12
	1.06	2.13	33.33	3.19
	1.98	4.60		
z = -1.44				
O-6	1	1	0.27	2
	0.27	0.27	50.00	0.53
	0.50	0.57		
z = -0.09				
CHO-2	0	2	0.00	2
	0.00	0.53	0.00	0.53
	0.00	100.00	0.00	
	0.00	1.15		
z = -1.53				
CHO-4	1	0	0.27	1
	0.27	0.00	100.00	0.27
	0.50	0.00		
z = 0.93				
TOTAL	202	174	53.72	376
			46.28	100.00

FREQUENCY MISSING = 1

Crosstabulation of Distribution of Respondents by  
Racial/Ethnic Group And Command Type  
With NPS Data Without NPS Data

TABLE OF RACE BY ONSITE

RACE	ONSITE		
FREQUENCY	INO	ONSITE	TOTAL
PERCENT	IE		
ROW PCT			
COL PCT			
WHITE	146	403	549
	21.28	58.75	80.03
	26.59	73.41	
	72.64	83.09	
BLACK	37	39	76
	5.39	5.69	11.08
	48.68	51.32	
	18.41	8.04	
HISPANIC	5	17	22
	0.73	2.48	3.21
	22.73	77.27	
	2.49	3.51	
ASIAN	7	17	24
	1.02	2.48	3.50
	29.17	70.83	
	3.48	3.51	
OTHER	6	9	15
	0.67	1.31	2.19
	40.00	60.00	
	2.99	1.86	
TOTAL	201	485	686
	29.30	70.70	100.00

FREQUENCY MISSING = 7

TABLE OF RACE BY ONSITE

RACE	ONSITE		
FREQUENCY	INO	ONSITE	TOTAL
PERCENT	IE		
ROW PCT			
COL PCT			
WHITE	146	127	273
	39.04	33.96	72.99
	53.48	46.52	
	72.64	73.41	
BLACK	37	27	64
	9.89	7.22	17.11
	57.81	42.19	
	18.41	15.61	
HISPANIC	5	11	16
	1.34	2.94	4.28
	31.25	68.75	
	2.49	6.36	
ASIAN	7	3	10
	1.87	0.80	2.67
	70.00	30.00	
	3.48	1.73	
OTHER	6	5	11
	1.60	1.34	2.94
	54.55	45.45	
	2.99	2.89	
TOTAL	201	173	374
	53.74	46.26	100.00

FREQUENCY MISSING = 3

Crosstabulation of Respondents' Educational Attainment  
And Command Type

With NPS DataWithout NPS Data

TABLE OF EDUCATN BY ONSITE

EDUCATN	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	INO-ONSITE	ONSITE		
	IE			
	0	1	0	1
	0.15	0.00	0.15	
	100.00	0.00		
	0.51	0.00		
NONHSG	4	3		7
	0.59	0.44		1.03
	57.14	42.86		
	2.03	0.42		
GED	11	9		20
	1.42	1.32		2.94
	55.00	45.00		
	5.58	1.86		
HSG	53	63		116
	7.79	9.26		17.06
	45.69	54.31		
	26.90	13.04		
TECHSCOL	13	13		26
	1.91	1.91		3.82
	50.00	50.00		
	6.60	2.69		
SOMCOL	62	65		127
	9.12	9.56		18.68
	48.82	51.18		
	31.47	13.46		
ASSOC	20	8		28
	2.94	1.18		4.12
	71.43	28.57		
	10.15	1.66		
BACH	13	235		248
	1.91	34.56		36.47
	5.24	94.76		
	6.60	48.65		
GRADSCOL	20	87		107
	2.94	12.79		15.74
	18.69	81.31		
	10.15	18.01		
TOTAL	197	483		680
	28.97	71.03		100.00

FREQUENCY MISSING = 13

TABLE OF EDUCATN BY ONSITE

EDUCATN	ONSITE			
FREQUENCY	PERCENT	ROW PCT	COL PCT	TOTAL
	INO-ONSITE	ONSITE		
	IE			
	0	1	0	1
	0.27	0.00	0.27	
	100.00	0.00		
	0.51	0.00		
NONHSG	4	3		7
	1.09	0.82		1.90
	57.14	42.86		
	2.03	1.75		
GED	11	8		19
	2.99	2.17		5.16
	57.89	42.11		
	5.58	4.68		
HSG	53	60		113
	14.40	16.30		30.71
	46.90	53.10		
	26.90	35.09		
TECHSCOL	13	12		25
	3.53	3.26		6.79
	52.00	48.00		
	6.60	7.02		
	62	60		122
	16.85	16.30		33.15
	50.82	49.18		
	31.47	35.09		
ASSOC	20	8		28
	5.43	2.17		7.61
	71.43	28.57		
	10.15	4.68		
BACH	13	11		24
	3.53	2.99		6.52
	54.17	45.83		
	6.60	6.43		
GRADSCOL	20	9		29
	5.43	2.45		7.88
	68.97	31.03		
	10.15	5.26		
TOTAL	197	171		368
	53.53	46.47		100.00

FREQUENCY MISSING = 9

Crosstabulation of Number of Employed Spouses  
By Respondent's Officer/Enlisted Status

With NPS DataWithout NPS Data

TABLE OF SPOUSENK BY RANK

SPOUSENK	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
NO	88	189	277
	13.92	29.91	43.83
	31.77	68.23	
	30.99	54.31	
YES	196	159	355
	31.01	25.16	56.17
	55.21	44.79	
	69.01	45.69	
TOTAL	284	348	632
	44.94	55.06	100.00

$z = 5.88$

FREQUENCY MISSING = 12

TABLE OF SPOUSENK BY RANK

SPOUSENK	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
NO	81	20	101
	25.00	6.17	31.17
	80.20	19.80	
	29.78	38.46	
YES	191	32	223
	58.95	9.88	68.83
	85.65	14.35	
	70.22	61.54	
TOTAL	272	52	324
	83.95	16.05	100.00

$z = 1.24$

FREQUENCY MISSING = 7

Crosstabulation of Number of Employed Spouses  
By Command Type

With NPS Data Without NPS Data

TABLE OF SPOUSENK BY ONSITE

SPOUSENK	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
NO	45	232	277
	7.12	36.71	43.83
	16.25	83.75	
	26.16	50.43	
YES	127	228	355
	20.09	36.08	56.17
	35.77	64.22	
	73.84	99.57	
TOTAL	172	460	632
	27.22	72.78	100.00

$z = 5.47$

FREQUENCY MISSING = 12

TABLE OF SPOUSENK BY ONSITE

SPOUSENK	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
NO	45	56	101
	13.89	17.28	31.17
	44.55	55.45	
	26.16	36.24	
YES	127	96	223
	39.20	29.63	68.83
	56.95	43.05	
	73.84	63.16	
TOTAL	172	152	324
	53.09	46.91	100.00

$z = 2.07$

FREQUENCY MISSING = 7



Crosstabulation of Spousal Employment Status  
By Respondents' Officer/Enlisted Status

With NPS Data Without NPS Data

TABLE OF FULLTIME BY RANK

FULLTIME	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
PARTTIME	55	92	147
	8.83	14.77	23.60
	37.41	62.59	
	19.93	26.51	
FULLTIME	134	66	200
	21.51	10.59	32.10
	67.00	32.00	
	48.55	19.02	
NOTWORKING	87	189	276
	13.96	30.34	44.30
	31.52	68.48	
	31.52	54.47	
TOTAL	276	347	623
	44.30	55.70	100.00

$$z = -1.92$$

$$z = 7.84$$

FREQUENCY MISSING = 21

TABLE OF FULLTIME BY RANK

FULLTIME	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
PARTTIME	54	16	70
	17.14	5.08	22.22
	77.14	22.86	
	20.45	31.37	
FULLTIME	130	15	145
	41.27	4.76	46.03
	89.66	10.34	
	49.24	29.41	
NOTWORKING	80	20	100
	25.40	6.35	31.75
	80.00	20.00	
	30.30	39.22	
TOTAL	264	51	315
	83.81	16.19	100.00

$$z = 2.60$$

FREQUENCY MISSING = 16

Crosstabulation of Spousal Employment Status  
By Command Type

With NPS Data Without NPS Data

TABLE OF FULLTIME BY ONSITE

FULLTIME	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
<hr/>			
PARTTIME	39	108	147
	6.26	17.34	23.60
	26.53	73.47	
	23.35	23.68	
<hr/>			
FULLTIME	84	116	200
	13.48	18.62	32.10
	42.00	58.00	
	50.30	25.44	
<hr/>			
NOTWORKING	44	232	276
	7.06	37.24	44.30
	15.94	84.06	
	26.35	50.88	
<hr/>			
TOTAL	167	456	623
	26.81	73.19	100.00

$z = 5.89$

FREQUENCY MISSING = 21

TABLE OF FULLTIME BY ONSITE

FULLTIME	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
<hr/>			
PARTTIME	39	31	70
	12.38	9.84	22.22
	55.71	44.29	
	23.35	20.95	
<hr/>			
FULLTIME	84	61	145
	26.67	19.37	46.03
	57.93	42.07	
	50.30	41.22	
<hr/>			
NOTWORKING	44	56	100
	13.97	17.78	31.75
	44.00	56.00	
	26.35	37.84	
<hr/>			
TOTAL	167	148	315
	53.02	46.98	100.00

$z = 1.61$

FREQUENCY MISSING = 16

Crosstabulation of Distribution of Infants (Less Than 1 Yr)  
By Command Type

With NPS Data
Without NPS Data

TABLE OF INFANT BY ONSITE

INFANT	ONSITE			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	INO-ONSITE	ONSITE		TOTAL
	IE	I		
0	176	382		558
	25.40	55.12		80.52
	31.54	58.46		
	86.70	77.96		
1	27	106		133
	3.90	15.30		19.19
	20.30	79.70		
	13.30	21.63		
2	0	2		2
	0.00	0.29		0.29
	0.00	100.00		
	0.00	0.41		
TOTAL	203	490		693
	29.29	70.71		100.00

$$z = 1.21$$

TABLE OF INFANT BY ONSITE

INFANT	ONSITE			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	INO-ONSITE	ONSITE		TOTAL
	IE	I		
0	176	143		319
	46.68	37.93		84.62
	55.17	44.83		
	86.70	82.18		
1	27	30		57
	7.16	7.96		15.12
	47.37	52.63		
	13.30	17.24		
2	0	1		1
	0.00	0.27		0.27
	0.00	100.00		
	0.00	0.57		
TOTAL	203	174		377
	53.85	46.15		100.00

Crosstabulation of Distribution of Pretoddlers  
(1 Yr to Less Than 2 Yrs)

By Command Type

With NPS Data

Without NPS Data

TABLE OF PRETODD BY ONSITE

PRETODD	ONSITE		
FREQUENCY	IE	NO-ONSITE	TOTAL
PERCENT			
ROW PCT			
COL PCT			
0	166	389	555
	23.95	56.13	80.09
$z = 0.71$	29.91	70.09	
	81.77	79.39	
1	36	99	135
	5.19	14.29	19.48
$z = -0.75$	26.67	73.33	
	17.73	20.20	
2	1	2	3
	0.14	0.29	0.43
$z = 0.15$	33.33	66.67	
	0.49	0.41	
TOTAL	203	490	693
	29.29	70.71	100.00

TABLE OF PRETODD BY ONSITE

PRETODD	ONSITE		
FREQUENCY	IE	NO-ONSITE	TOTAL
PERCENT			
ROW PCT			
COL PCT			
0	166	150	316
	44.03	39.79	83.82
	52.53	47.47	
	81.77	86.21	
1	36	23	59
	9.55	6.10	15.65
	61.02	38.98	
	17.73	13.22	
2	1	1	2
	0.27	0.27	0.53
	50.00	50.00	
	0.49	0.57	
TOTAL	203	174	377
	53.85	46.15	100.00

Crosstabulation of Distribution of Toddlers  
(2 Yrs to Less Than 3 Yrs)  
By Command Type

With NPS Data

Without NPS Data

TABLE OF TODDLER BY ONSITE

TODDLER	ONSITE		
FREQUENCY	PERCENT		
ROW PCT	COL PCT		
	NO-ONSITE	ONSITE	TOTAL
	IE		
0	167	371	538
	24.10	53.54	77.63
	31.04	68.96	
	82.27	75.71	
1	35	118	153
	5.05	17.03	22.08
	22.88	77.12	
	17.24	24.08	
2	1	1	2
	0.14	0.14	0.29
	50.00	50.00	
	0.49	0.20	
TOTAL	203	490	693
	29.27	70.71	100.00

$z = 1.89$

$z = -1.98$

$z = 0.65$

TABLE OF TODDLER BY ONSITE

TODDLER	ONSITE		
FREQUENCY	PERCENT		
ROW PCT	COL PCT		
	NO-ONSITE	ONSITE	TOTAL
	IE		
0	167	139	306
	44.30	36.87	81.17
	54.58	45.42	
	82.27	79.89	
1	35	34	69
	9.28	9.02	18.30
	50.72	49.28	
	17.24	19.54	
2	1	1	2
	0.27	0.27	0.53
	50.00	50.00	
	0.49	0.57	
TOTAL	203	174	377
	53.85	46.15	100.00

Crosstabulation of Distribution of Preschoolers (3 to 5 Yrs)  
By Command Type

With NPS Data
Without NPS Data

TABLE OF PRESCHOL BY ONSITE

PRESCHOL	ONSITE			
FREQUENCY	INO	ONSITE		
PERCENT				
ROW PCT				
COL PCT	INO	ONSITE		TOTAL
	IE	I		
$z = 0.86$	0	125	285	410
		18.04	41.13	59.16
		30.49	69.51	
		61.58	58.16	
$z = -0.93$	1	67	180	247
		9.67	25.97	35.64
		27.13	72.87	
		33.00	36.73	
$z = 0.17$	2	11	25	36
		1.59	3.61	5.19
		30.56	69.44	
		5.42	5.10	
TOTAL	203	490		693
	29.29	70.71		100.00

TABLE OF PRESCHOL BY ONSITE

PRESCHOL	ONSITE			
FREQUENCY	INO	ONSITE		
PERCENT				
ROW PCT				
COL PCT	INO	ONSITE		TOTAL
	IE	I		
	0	125	110	235
		33.16	29.18	62.33
		53.19	46.81	
		61.58	63.22	
	1	67	59	126
		17.77	15.65	33.42
		53.17	46.83	
		33.00	33.91	
	2	11	5	16
		2.92	1.33	4.24
		68.75	31.25	
		5.42	2.87	
TOTAL	203	174		377
	53.85	46.15		100.00

# Crosstabulation of Distribution of School-Age Dependents By Command Type

With NPS Data
Without NPS Data

TABLE OF SCOLAGE BY ONSITE

SCOLAGE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
0	88	241	329
	12.70	34.78	47.47
	26.75	73.25	
	43.35	49.18	
1	65	161	226
	9.38	23.23	32.61
	28.76	71.24	
	32.02	32.86	
2	37	65	102
	5.34	9.38	14.72
	36.27	63.73	
	18.23	13.27	
3	10	18	28
	1.44	2.60	4.04
	35.71	64.29	
	4.93	3.67	
4	3	2	5
	0.43	0.29	0.72
	60.00	40.00	
	1.68	0.41	
5	0	2	2
	0.00	0.29	0.29
	0.00	100.00	
	0.00	0.41	
6	0	1	1
	0.00	0.14	0.14
	0.00	100.00	
	0.00	0.20	
TOTAL	203	490	693
	29.29	70.71	100.00

$$z = 1.40$$

TABLE OF SCOLAGE BY ONSITE

SCOLAGE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
0	88	70	158
	23.34	18.57	41.91
	55.70	44.30	
	43.35	40.23	
1	65	66	131
	17.24	17.51	34.75
	49.62	50.38	
	32.02	37.93	
2	37	24	61
	9.81	6.37	16.18
	60.66	39.34	
	18.23	13.79	
3	10	10	20
	2.65	2.65	5.31
	50.00	50.00	
	4.93	5.75	
4	3	2	5
	0.80	0.53	1.33
	60.00	40.00	
	1.68	1.15	
5	0	1	1
	0.00	0.27	0.27
	0.00	100.00	
	0.00	0.57	
6	0	1	1
	0.00	0.27	0.27
	0.00	100.00	
	0.00	0.57	
TOTAL	203	174	377
	53.85	46.15	100.00

$$z = -0.61$$

Crosstabulation of Distribution of Children  
Less Than 6 Years Old  
By Command Type

With NPS Data Without NPS Data

TABLE OF PRESKOOL BY ONSITE

PRESKOOL	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO	ONSITE	TOTAL
	IE	I	
NO	66	111	177
	9.52	16.02	25.54
	37.29	62.71	
	32.51	22.65	
YES	137	379	516
	19.77	54.69	74.46
	26.55	73.45	
	67.49	77.35	
TOTAL	203	490	693
	29.29	70.71	100.00

TABLE OF PRESKOOL BY ONSITE

PRESKOOL	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO	ONSITE	TOTAL
	IE	I	
NO	66	57	123
	17.51	15.12	32.63
	53.66	46.34	
	32.51	32.76	
YES	137	117	254
	36.34	31.03	67.37
	53.94	46.06	
	67.49	67.24	
TOTAL	203	174	377
	53.85	46.15	100.00

$$z = 0.05$$



Crosstabulation of Spouses Providing Child Care  
By Command Type

With NPS Data Without NPS Data

TABLE OF SPOUSE BY ONSITE

SPOUSE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	(NO-ONSITE)	ONSITE	TOTAL
	IE	I	
NO	99	163	262
	14.41	23.73	38.14
	37.79	62.21	
	50.25	33.27	
YES	98	327	425
	14.26	47.60	61.86
	23.06	76.94	
	49.75	66.73	
TOTAL	197	490	687
	28.68	71.32	100.00

$z = -4.14$

FREQUENCY MISSING = 6

TABLE OF SPOUSE BY ONSITE

SPOUSE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	(NO-ONSITE)	ONSITE	TOTAL
	IE	I	
NO	99	84	183
	26.68	22.64	49.33
	54.10	45.90	
	50.25	48.28	
YES	98	90	188
	26.42	24.26	50.67
	52.13	47.87	
	49.75	51.72	
TOTAL	197	174	371
	53.10	46.90	100.00

$z = -0.38$

FREQUENCY MISSING = 6

Crosstabulation of Relatives Providing Child Care  
By Command Type

With NPS Data Without NPS Data

TABLE OF RELATIVE BY ONSITE

RELATIVE	ONSITE		
FREQUENCY	NO	ON-SITE	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	ON-SITE	
	165	457	622
	24.02	66.52	90.54
	26.53	73.47	
	83.76	93.27	
YES	32	33	65
	4.66	4.80	9.46
	49.23	50.77	
	16.24	6.73	
TOTAL	197	490	687
	28.68	71.32	100.00

$$z = 3.85$$

FREQUENCY MISSING = 6

TABLE OF RELATIVE BY ONSITE

RELATIVE	ONSITE		
FREQUENCY	NO	ON-SITE	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	ON-SITE	
	165	161	326
	44.47	43.40	87.87
	50.61	49.39	
	83.76	92.53	
YES	32	13	45
	8.63	3.50	12.13
	71.11	28.89	
	16.24	7.47	
TOTAL	197	174	371
	53.10	46.90	100.00

$$z = 2.58$$

FREQUENCY MISSING = 6

Crosstabulation of Non-Relative Hirees Providing Child Care  
By Command Type

With NPS Data                      Without NPS Data

TABLE OF HIREE BY ONSITE

HIREE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
NO	150	391	541
	21.83	56.91	78.75
	27.73	72.27	
	76.14	79.80	
YES	47	99	146
	6.84	14.41	21.25
	32.19	67.81	
	23.86	20.20	
TOTAL	197	490	687
	28.68	71.32	100.00

$$z = 1.06$$

FREQUENCY MISSING = 6

TABLE OF HIREE BY ONSITE

HIREE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
NO	150	127	277
	40.43	34.23	74.66
	54.15	45.85	
	76.14	72.99	
YES	47	47	94
	12.67	12.67	25.34
	50.00	50.00	
	23.86	27.01	
TOTAL	197	174	371
	53.10	46.90	100.00

$$z = -0.69$$

FREQUENCY MISSING = 6

Crosstabulation of Use of Military Family  
Home Care Facilities  
By Command Type

With NPS Data

Without NPS Data

TABLE OF MILFHC BY ONSITE

MILFHC	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	
NO	191	456	647
	27.80	66.38	94.18
	29.52	70.48	
	96.95	93.06	
YES	6	34	40
	0.87	4.95	5.82
	15.00	85.00	
	3.05	6.94	
TOTAL	197	490	687
	28.68	71.32	100.00

$$z = -1.97$$

FREQUENCY MISSING = 6

TABLE OF MILFHC BY ONSITE

MILFHC	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	
NO	191	162	353
	51.48	43.67	95.15
	54.11	45.89	
	96.95	93.10	
YES	6	12	18
	1.62	3.23	4.85
	33.33	66.67	
	3.05	6.90	
TOTAL	197	174	371
	53.10	46.90	100.00

$$z = -1.72$$

FREQUENCY MISSING = 6

Crosstabulation of Use of Civilian Family Day Care Homes  
By Command Type

With NPS Data

Without NPS Data

TABLE OF CIVFDC BY ONSITE

CIVFDC	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
NO	188	478	666
	27.37	69.58	96.94
	28.23	71.77	
	95.43	97.55	
YES	9	12	21
	1.31	1.75	3.06
	42.86	57.14	
	4.57	2.45	
TOTAL	197	490	687
	28.68	71.32	100.00

$$z = 1.46$$

FREQUENCY MISSING = 6

TABLE OF CIVFDC BY ONSITE

CIVFDC	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
NO	188	174	362
	50.67	46.90	97.57
	51.93	48.07	
	95.43	100.00	
YES	9	0	9
	2.43	0.00	2.43
	100.00	0.00	
	4.57	0.00	
TOTAL	197	174	371
	53.10	46.90	100.00

$$z = 2.85$$

FREQUENCY MISSING = 6

Crosstabulation of Use of Civilian Day Care Centers  
By Command Type

With NPS Data                      Without NPS Data

TABLE OF CIVCTR BY ONSITE

CIVCTR	ONSITE			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	NO-ONSITE	ONSITE		TOTAL
	IE			
NO	176	453		629
	25.62	65.94		91.56
	27.98	72.02		
	89.34	92.45		
YES	21	37		58
	3.06	5.39		8.44
	3.21	63.79		
	10.66	7.55		
TOTAL	197	490		687
	28.68	71.32		100.00

$z = 1.33$

FREQUENCY MISSING = 6

TABLE OF CIVCTR BY ONSITE

CIVCTR	ONSITE			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	NO-ONSITE	ONSITE		TOTAL
	IE			
NO	176	160		336
	47.44	43.13		90.57
	52.38	47.62		
	89.34	91.95		
YES	21	14		35
	5.66	3.77		9.43
	60.00	40.00		
	10.66	8.05		
TOTAL	197	174		371
	53.10	46.90		100.00

$z = 0.86$

FREQUENCY MISSING = 6

Crosstabulation of Use of Military Child Development Centers  
By Command Type

With NPS Data

Without NPS Data

TABLE OF MILCTR BY ONSITE

MILCTR	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	TOTAL
NO	185	416	601
	26.93	60.55	87.48
	30.78	69.22	
	93.91	84.90	
YES	12	74	86
	1.75	10.77	12.52
	13.95	86.05	
	6.09	15.10	
TOTAL	197	490	687
	28.68	71.32	100.00

$z = -3.23$

FREQUENCY MISSING = 6

TABLE OF MILCTR BY ONSITE

MILCTR	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	TOTAL
NO	185	151	336
	49.87	40.70	90.57
	55.06	44.94	
	93.91	86.78	
YES	12	23	35
	3.23	6.20	9.43
	34.29	65.71	
	6.09	13.22	
TOTAL	197	174	371
	53.10	46.90	100.00

$z = -2.35$

FREQUENCY MISSING = 6

Crosstabulation of Use of Extended Care Facilities  
By Command Type

With NPS Data

Without NPS Data

TABLE OF EXT CARE BY ONSITE

EXTCARE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
NO	186	466	652
	27.07	67.83	94.91
	28.53	71.47	
	94.42	95.10	
YES	11	24	35
	1.60	3.49	5.09
	31.43	68.57	
	5.58	4.90	
TOTAL	197	490	687
	28.68	71.32	100.00

$z = 0.37$

FREQUENCY MISSING = 6

TABLE OF EXT CARE BY ONSITE

EXTCARE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
NO	186	160	346
	50.13	43.13	93.26
	53.76	40.24	
	94.42	91.35	
YES	11	14	25
	2.96	3.77	6.74
	44.00	56.00	
	5.58	8.05	
TOTAL	197	174	371
	53.10	46.90	100.00

$z = -0.95$

FREQUENCY MISSING = 6



Crosstabulation of the Number of Respondents Who Report  
Child Care-Related Work Interference  
By Respondents' Marital Status  
With NPS Data                      Without NPS Data

TABLE OF INTRFERE BY MARRIED

INTRFERE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
NO	40	390	430
	5.78	56.36	62.14
	9.30	90.70	
	59.70	62.40	
YES	27	235	262
	3.90	33.96	37.86
	10.31	89.69	
	40.30	37.60	
TOTAL	67	625	692
	9.68	90.32	100.00

$$z = 0.43$$

FREQUENCY MISSING = 1

TABLE OF INTRFERE BY MARRIED

INTRFERE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
NO	38	192	230
	10.11	51.06	61.17
	16.52	83.48	
	62.30	60.95	
YES	23	123	146
	6.12	32.71	38.83
	15.75	84.25	
	37.70	39.05	
TOTAL	61	315	376
	16.22	83.78	100.00

$$z = -0.19$$

FREQUENCY MISSING = 1

Crosstabulation of the Number of Respondents Who Report  
Child Care-Related Work Interference  
By Command Type

With NPS Data

Without NPS Data

TABLE OF INTRFERE BY ONSITE

INTRFERE	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	TOTAL
	120	180	300
	17.34	26.01	25.86
	27.91	40.59	34.25
	59.41	66.60	63.08
YES	180	174	354
	26.01	24.29	25.15
	40.59	39.70	40.14
	66.60	56.01	61.35
TOTAL	300	354	654
	29.19	54.13	41.66

$z = 0.95$

FREQUENCY MISSING = 1

TABLE OF INTRFERE BY ONSITE

INTRFERE	ONSITE		
FREQUENCY	NO	YES	TOTAL
PERCENT			
ROW PCT			
COL PCT	NO	YES	TOTAL
	120	110	230
	31.91	29.26	30.58
	52.17	47.83	50.00
	59.41	63.22	61.35
YES	82	64	146
	21.81	17.02	19.44
	56.16	43.84	50.00
	40.59	36.78	38.67
TOTAL	202	174	376
	53.72	46.28	50.00

$z = 0.95$

FREQUENCY MISSING = 1

With NPS Data

### Without NPS Data

TABLE OF NOPROBLM BY MARRIED

	NOPROBLEM		MARRIED		
FREQUENCY					
PERCENT					
ROW PCT					
COL PCT	SINGLE	MARRIED			TOTAL
	0	38	160		198
		10.47	44.08		54.55
		19.19	80.81		
		65.52	52.46		
	1	20	145		165
		5.51	39.94		45.45
		12.12	87.88		
		34.48	47.54		
TOTAL	58	305			363
	15.98	84.02			100.00

FREQUENCY MISSING = 14

Crosstabulation of the Number of Respondents Who Report  
Experiencing No Child Care-Related Work Interference  
By Command Type

With NPS Data

Without NPS Data

TABLE OF NOPROBLM BY ONSITE

NOPROBLM	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
0	116	212	328
	17.39	31.78	49.18
	35.37	64.63	
	59.49	44.92	
1	79	260	339
	11.84	38.98	50.82
	23.30	76.70	
	40.51	55.08	
TOTAL	195	472	667
	29.24	70.76	100.00

$$z = -3.42$$

FREQUENCY MISSING = 26

TABLE OF NOPROBLM BY ONSITE

NOPROBLM	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
0	116	82	198
	31.96	22.59	54.55
	58.59	41.41	
	59.49	48.81	
1	79	86	165
	21.76	23.69	45.45
	47.88	52.12	
	40.51	51.19	
TOTAL	195	168	363
	53.72	46.28	100.00

$$z = -2.04$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Experiencing Stress By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF STRESS BY MARRIED

STRESS	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	38	462	500
	5.70	69.27	74.96
	7.60	92.40	
	59.38	76.62	
1	26	141	167
	3.90	21.14	25.04
	15.57	84.43	
	40.63	23.38	
TOTAL	64	603	667
	9.60	90.40	100.00

$$z = 3.03$$

FREQUENCY MISSING = 26

TABLE OF STRESS BY MARRIED

STRESS	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	35	232	267
	9.64	63.91	73.55
	13.11	86.89	
	60.34	76.07	
1	23	73	96
	6.34	20.11	26.45
	23.96	76.04	
	39.66	23.93	
TOTAL	58	305	363
	15.98	84.02	100.00

$$z = 2.49$$

FREQUENCY MISSING = 14

### Without NPS Data

### TABLE OF STRESS BY ONSITE

STRESS		ONSITE		
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	INO-	ONSITE		
	IE	I		TOTAL
	0	138	129	267
		38.02	35.54	73.55
		51.69	48.31	
		70.77	76.79	
	1	57	39	96
		15.70	10.74	26.45
		59.38	40.63	
		29.23	23.21	
TOTAL		195	168	363
		53.72	46.28	100.00

$$z = 1.30$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Experiencing Tardiness by Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF TARDY BY MARRIED

TARDY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	46	517	563
	6.90	77.51	84.41
	8.17	91.83	
	71.88	85.74	
1	18	86	104
	2.70	12.89	15.59
	17.31	82.69	
	28.13	14.26	
TOTAL	64	603	667
	9.60	90.40	100.00

$$z = 2.91$$

FREQUENCY MISSING = 26

TABLE OF TARDY BY MARRIED

TARDY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	41	266	307
	11.29	73.28	84.57
	13.56	86.64	
	70.69	87.21	
1	17	39	56
	4.68	10.74	15.43
	30.56	69.64	
	29.31	12.79	
TOTAL	58	305	363
	15.98	84.02	100.00

$$z = 3.19$$

FREQUENCY MISSING = 14

### Without NPS Data

TABLE OF TARDY BY ONSITE

	TARDY	ONSITE		
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	(NO-ONSITE)	ONSITE		
	IE	I		TOTAL
	-----	-----	-----	-----
	0	158	149	307
		43.53	41.05	84.57
		51.47	48.53	
		81.03	89.69	
	-----	-----	-----	-----
	1	37	19	56
		10.19	5.23	15.43
		66.07	33.93	
		18.97	11.31	
	-----	-----	-----	-----
TOTAL	195	168	363	
	53.72	46.28	100.00	

FREQUENCY MISSING = 14



Crosstabulation of Number of Respondents Who Report  
Absence From Work By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF ABSENCE BY MARRIED

ABSENCE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	46	436	482
	6.90	65.37	72.26
1	9.54	90.46	
	71.88	72.31	
1	18	167	185
	2.70	25.04	27.74
	9.73	90.27	
	28.13	27.69	
TOTAL	64	603	667
	9.60	90.40	100.00

$$z = 0.07$$

FREQUENCY MISSING = 26

TABLE OF ABSENCE BY MARRIED

ABSENCE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	43	212	255
	11.85	58.40	70.25
	16.86	83.14	
	74.14	69.51	
1	15	93	108
	4.13	25.62	29.75
	13.89	86.11	
	25.86	30.49	
TOTAL	58	305	363
	15.98	84.02	100.00

$$z = -0.71$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Absence From Work By Command Type  
With NPS Data Without NPS Data

TABLE OF ABSENCE BY ONSITE

ABSENCE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	131	351	482
	19.64	52.62	72.26
	27.18	72.82	
	67.18	74.36	
1	64	121	185
	9.60	18.14	27.74
	34.59	65.41	
	32.82	25.64	
TOTAL	195	472	667
	29.24	70.76	100.00

$z = 1.88$

FREQUENCY MISSING = 26

TABLE OF ABSENCE BY ONSITE

ABSENCE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	131	124	255
	36.09	34.16	70.25
	51.37	48.63	
	67.18	73.81	
1	64	44	108
	17.63	12.12	29.75
	59.26	40.74	
	32.82	26.19	
TOTAL	195	168	363
	53.72	46.28	100.00

$z = 1.38$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Increased Work Errors by Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF ERRORS BY MARRIED

ERRORS	MARRIED			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	SINGLE	MARRIED		TOTAL
0	61	590		651
	9.15	88.46		97.60
	9.37	90.63		
	95.31	97.84		
1	3	13		16
	0.45	1.95		2.40
	18.75	81.25		
	4.69	2.16		
TOTAL	64	603		667
	9.60	90.40		100.00

$$z = 1.26$$

FREQUENCY MISSING = 26

TABLE OF ERRORS BY MARRIED

ERRORS	MARRIED			
FREQUENCY				
PERCENT				
ROW PCT				
COL PCT	SINGLE	MARRIED		TOTAL
0	55	298		353
	15.15	82.09		97.25
	15.58	84.42		
	94.83	97.70		
1	3	7		10
	0.83	1.93		2.75
	30.00	70.00		
	5.17	2.30		
TOTAL	58	305		363
	15.98	84.02		100.00

$$z = 1.23$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Increased Work Errors By Command Type

With NPS Data

Without NPS Data

TABLE OF ERRORS BY ONSITE

ERRORS		ONSITE	
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
0	190	461	651
	28.49	69.12	97.60
	29.19	70.81	
	97.44	97.67	
1	5	11	16
	0.75	1.65	2.40
	31.25	68.75	
	2.56	2.33	
TOTAL	195	472	667
	29.24	70.76	100.00

$$z = 0.18$$

FREQUENCY MISSING = 26

TABLE OF ERRORS BY ONSITE

ERRORS		ONSITE	
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE		
0	190	163	353
	52.34	44.90	97.25
	53.82	46.18	
	97.44	97.02	
1	5	5	10
	1.38	1.38	2.75
	50.00	50.00	
	2.56	2.98	
TOTAL	195	168	363
	53.72	46.28	100.00

$$z = -0.24$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Low Motivation By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF MOTIVE BY MARRIED

MOTIVE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	53	574	627
	7.95	86.06	94.00
	8.45	91.55	
	82.81	95.19	
1	11	29	40
	1.65	4.35	6.00
	27.50	72.50	
	17.19	4.81	
TOTAL	64	603	667
	9.60	90.40	100.00

$$Z = 3.97$$

FREQUENCY MISSING = 26

TABLE OF MOTIVE BY MARRIED

MOTIVE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	49	292	341
	13.50	80.44	93.94
	14.37	85.63	
	84.48	95.74	
1	9	13	22
	2.48	3.58	6.06
	40.91	59.09	
	15.52	4.26	
TOTAL	58	305	363
	15.98	84.02	100.00

$$Z = 3.29$$

FREQUENCY MISSING = 14

### Without NPS Data

TABLE OF MOTIVE BY ONSITE

	MOTIVE		ONSITE		
	FREQUENCY				
	PERCENT				
	ROW PCT				
	COL PCT	INO-ONSITE	ONSITE		TOTAL
	IE				
	0	182	159		341
		50.14	43.80		93.94
		53.37	46.63		
		93.33	94.04		
	1	13	9		22
		3.58	2.48		6.06
		59.09	40.91		
		6.67	5.36		
	TOTAL	195	168		363
		53.72	46.28		100.00

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Spending Extra Time On The Telephone Dealing With  
Child Care Problems By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF PHONE BY MARRIED

PHONE	MARRIED			
		FREQUENCY		
		PERCENT		
		ROW PCT		
		COL PCT	SINGLE	MARRIED
				TOTAL
	0	51	528	579
		7.65	79.16	86.81
		8.81	91.19	
		79.69	87.56	
	1	13	75	88
		1.95	11.24	13.19
		14.77	85.23	
		20.31	12.44	
	TOTAL	64	603	667
		9.60	90.40	100.00

$$z = 1.77$$

FREQUENCY MISSING = 26

TABLE OF PHONE BY MARRIED

PHONE	MARRIED			
		FREQUENCY		
		PERCENT		
		ROW PCT		
		COL PCT	SINGLE	MARRIED
				TOTAL
	0	47	256	303
		12.95	70.52	83.47
		15.51	84.49	
		81.03	83.93	
	1	11	49	60
		3.03	13.50	16.53
		18.33	81.67	
		18.97	16.07	
	TOTAL	58	305	363
		15.98	84.02	100.00

$$z = 0.55$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Spending Extra Time On The Telephone Dealing With  
Child Care Problems By Command Type  
With NPS Data Without NPS Data

TABLE OF PHONE BY ONSITE

PHONE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO	ONSITE	TOTAL
	IE		
0	160	419	579
	23.99	62.82	86.81
	27.63	72.37	
	82.05	88.77	
1	35	53	88
	5.25	7.95	13.19
	39.77	60.23	
	17.95	11.23	
TOTAL	195	472	667
	29.24	70.76	100.00

$z = 2.33$

FREQUENCY MISSING = 26

TABLE OF PHONE BY ONSITE

PHONE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO	ONSITE	TOTAL
	IE		
0	160	143	303
	44.08	39.39	83.47
	52.81	47.19	
	82.05	85.12	
1	35	25	60
	9.64	6.89	16.53
	58.33	41.67	
	17.95	14.88	
TOTAL	195	168	363
	53.72	46.28	100.00

$z = 0.79$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having Financial Difficulties By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF MONEY BY MARRIED

MONEY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ISINGLE	IMARRIED	TOTAL
0	42	514	556
	6.30	77.06	83.36
	7.55	92.45	
	65.63	85.24	
1	22	89	111
	3.30	13.34	16.64
	19.82	80.18	
	34.38	14.76	
TOTAL	64	603	667
	9.60	90.40	100.00

$z = 4.01$

FREQUENCY MISSING = 26

TABLE OF MONEY BY MARRIED

MONEY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ISINGLE	IMARRIED	TOTAL
0	37	240	277
	10.19	66.12	76.31
	13.36	86.64	
	63.79	78.69	
1	21	65	86
	5.79	17.91	23.69
	24.42	75.58	
	36.21	21.31	
TOTAL	58	305	363
	15.98	84.02	100.00

$z = 2.45$

FREQUENCY MISSING = 14



## Without NPS Data

TABLE OF MONEY BY ONSITE

$$Z = 5.38$$
$$z = 2.43$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having to "Moonlight" By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF MOONLITE BY MARRIED

MOONLITE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	54	566	620
	8.10	84.86	92.95
	8.71	91.29	
	84.38	93.86	
1	10	37	47
	1.50	5.55	7.05
	21.28	78.72	
	15.63	6.14	
TOTAL	64	603	667
	9.60	90.40	100.00

$$Z = 2.82$$

FREQUENCY MISSING = 26

TABLE OF MOONLITE BY MARRIED

MOONLITE	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	48	269	317
	13.22	74.10	87.33
	15.14	84.86	
	82.76	88.20	
1	10	36	46
	2.75	9.92	12.67
	21.74	78.26	
	17.24	11.80	
TOTAL	58	305	363
	15.98	84.02	100.00

$$Z = 1.14$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having to "Moonlight" By Command Type  
With NPS Data Without NPS Data

TABLE OF MOONLITE BY ONSITE

MOONLITE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
0	162	458	620
	24.29	68.67	92.95
	26.13	73.87	
	83.08	97.03	
1	33	14	47
	4.95	2.10	7.05
	70.21	29.79	
	16.92	2.97	
TOTAL	195	472	667
	29.24	70.76	100.00

z = 6.40

FREQUENCY MISSING = 26

TABLE OF MOONLITE BY ONSITE

MOONLITE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	NO-ONSITE	ONSITE	TOTAL
	IE	I	
0	162	155	317
	44.63	42.79	87.35
	51.10	48.90	
	83.08	92.26	
1	33	13	46
	9.09	3.58	12.67
	71.74	28.26	
	16.92	7.74	
TOTAL	195	168	363
	53.72	46.28	100.00

z = 2.62

FREQUENCY MISSING = 14

### Without NPS Data

TABLE OF LEAVE BY MARRIED

	LEAVE	MARRIED	
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT   SINGLE   MARRIED			TOTAL
-----			
0	44	254	298
	12.12	69.97	82.09
	14.77	85.23	
	75.86	83.28	
-----			
1	14	51	65
	3.86	14.05	17.91
	21.54	78.46	
	24.14	16.72	
-----			
TOTAL	58	305	363
	15.98	84.02	100.00

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having to Take Unplanned Leave By Command Type  
With NPS Data Without NPS Data

TABLE OF LEAVE BY ONSITE

LEAVE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	158	434	592
	23.69	65.07	88.76
	24.69	73.31	
	81.03	91.95	
1	37	38	75
	5.55	5.70	11.24
	49.33	50.67	
	18.97	8.05	
TOTAL	195	472	667
	29.24	70.76	100.00

$$z = 4.06$$

FREQUENCY MISSING = 26

TABLE OF LEAVE BY ONSITE

LEAVE	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	158	140	298
	43.53	38.57	82.09
	53.02	46.98	
	81.03	83.33	
1	37	28	65
	10.19	7.71	17.91
	56.92	43.08	
	18.97	16.67	
TOTAL	195	168	363
	53.72	46.28	100.00

$$z = 0.57$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having Changed a Job or Rating To Accommodate Child Care Needs  
By Respondents' Marital Status

With NPS Data

Without NPS Data

TABLE OF CHNGJOB BY MARRIED

CHNGJOB	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	58	597	655
	8.70	89.51	98.20
	8.85	91.15	
	90.63	99.00	
1	6	6	12
	0.90	0.90	1.80
	50.00	50.00	
	9.38	1.00	
TOTAL	64	603	667
	9.60	90.40	100.00

$$z = 4.80$$

FREQUENCY MISSING = 26

TABLE OF CHNGJOB BY MARRIED

CHNGJOB	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	53	302	355
	14.60	85.20	97.80
	14.93	85.07	
	91.38	99.02	
1	5	3	8
	1.38	0.83	2.20
	62.50	37.50	
	8.62	0.98	
TOTAL	58	305	363
	15.98	84.02	100.00

$$z = 3.64$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having Changed a Job or Rating To Accommodate Child Care Needs  
By Command Type

With NPS Data

Without NPS Data

TABLE OF CHNGJOB BY ONSITE

CHNGJOB	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	191	464	655
	28.64	69.57	98.20
	29.16	70.84	
	97.05	98.31	
1	4	8	12
	0.60	1.20	1.80
	33.33	46.67	
	2.05	1.69	
TOTAL	195	472	667
	29.24	70.76	100.00

$$Z = 0.32$$

FREQUENCY MISSING = 26

TABLE OF CHNGJOB BY ONSITE

CHNGJOB	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	191	164	355
	52.62	45.18	97.80
	53.80	46.20	
	97.95	97.62	
1	4	4	8
	1.10	1.10	2.20
	50.00	50.00	
	2.05	2.38	
TOTAL	195	168	363
	53.72	46.28	100.00

$$Z = -0.21$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
 Loss of Mobility By Respondents' Marital Status  
 With NPS Data Without NPS Data

TABLE OF MOBILITY BY MARRIED

MOBILITY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	48	535	583
	7.20	80.21	87.41
	8.23	91.77	
	75.00	88.72	
1	16	68	84
	2.40	10.19	12.59
	19.05	80.95	
	25.00	11.28	
TOTAL	64	603	667
	9.60	90.40	100.00

$z = 2.92$

FREQUENCY MISSING = 26

TABLE OF MOBILITY BY MARRIED

MOBILITY	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	44	267	311
	12.12	73.55	85.67
	14.15	85.85	
	75.86	87.54	
1	14	38	52
	3.86	10.47	14.33
	26.92	73.08	
	24.14	12.46	
TOTAL	58	305	363
	15.98	84.02	100.00

$z = 2.33$

FREQUENCY MISSING = .4



Crosstabulation of Number of Respondents Who Report  
Loss of Mobility By Command Type

With NPS Data

Without NPS Data

TABLE OF MOBILITY BY ONSITE

MOBILITY	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	160	423	583
	23.99	63.42	87.41
	27.44	72.56	
	82.05	89.62	
1	35	49	84
	5.25	7.35	12.59
	41.67	58.33	
	17.95	10.38	
TOTAL	195	472	667
	29.24	70.76	100.00

$$z = 2.68$$

FREQUENCY MISSING = 26

TABLE OF MOBILITY BY ONSITE

MOBILITY	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	TOTAL
	IE	I	
0	160	151	311
	44.08	41.60	85.67
	51.45	48.55	
	82.05	89.88	
1	35	17	52
	9.64	4.68	14.33
	67.51	32.69	
	17.95	10.12	
TOTAL	195	168	363
	53.72	46.28	100.00

$$z = 2.12$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having to Bring a Child to Work By Respondents Marital Status  
With NPS Data Without NPS Data

TABLE OF KID2WORK BY MARRIED

KID2WORK	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	49	561	610
	7.35	84.11	91.45
	8.03	91.97	
	76.56	93.03	
1	15	42	57
	2.25	6.30	8.55
	26.32	73.68	
	23.44	6.97	
TOTAL	64	603	667
	9.60	90.40	100.00

$z = 4.48$

FREQUENCY MISSING = 26

TABLE OF KID2WORK BY MARRIED

KID2WORK	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	45	280	325
	12.40	77.13	89.53
	13.85	86.15	
	77.59	91.80	
1	13	25	38
	3.58	6.89	10.47
	34.21	65.79	
	22.41	8.20	
TOTAL	58	305	363
	15.98	84.02	100.00

$z = 3.24$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having to Bring a Baby to Work By Command Type  
With NPS Data Without NPS Data

TABLE OF KID2WORK BY ONSITE

KID2WORK	ONSITE			
FREQUENCY	IE	ONSITE	NO-ONSITE	TOTAL
PERCENT				
ROW PCT				
COL PCT				
0	168	442	610	
	25.19	66.27	91.45	
	27.54	72.46		
	86.15	93.64		
1	27	30	57	
	4.05	4.50	8.55	
	47.37	52.63		
	13.85	6.36		
TOTAL	195	472	667	
	29.24	70.76	100.00	

$z = 3.15$

FREQUENCY MISSING = 26

TABLE OF KID2WORK BY ONSITE

KID2WORK	ONSITE			
FREQUENCY	IE	ONSITE	NO-ONSITE	TOTAL
PERCENT				
ROW PCT				
COL PCT				
0	168	157	325	
	46.28	43.25	89.53	
	51.69	48.31		
	86.15	93.45		
1	27	11	38	
	7.44	3.03	10.47	
	71.05	28.95		
	13.85	6.55		
TOTAL	195	168	363	
	53.72	46.28	100.00	

$z = 2.27$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having Difficulty Standing Mid-Watches  
By Respondents' Marital Status

With NPS Data

Without NPS Data

TABLE OF NITENTCH BY MARRIED

NITENTCH	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	49	580	629
	7.35	86.96	94.30
	7.79	92.21	
	76.56	96.19	
1	15	23	38
	2.25	3.45	5.70
	39.47	40.53	
	23.44	3.81	
TOTAL	64	603	667
	9.60	90.40	100.00

$$\chi^2 = 6.44$$

FREQUENCY MISSING = 26

TABLE OF NITENTCH BY MARRIED

NITENTCH	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	44	286	330
	12.12	78.79	90.91
	13.33	86.67	
	75.86	93.77	
1	14	19	33
	3.86	5.23	9.09
	42.42	57.58	
	24.14	6.23	
TOTAL	58	305	363
	15.98	84.02	100.00

$$\chi^2 = 4.35$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
Having Difficulty Standing Mid-Watches  
By Command Type

With NPS Data

Without NPS Data

TABLE OF NITEWTCH BY ONSITE

NITEWTCH	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	SITE	
	IE		TOTAL
0	178	451	629
	26.69	67.62	94.30
	28.30	71.70	
	91.28	95.55	
1	17	21	38
	2.55	3.15	5.70
	44.74	55.26	
	8.72	4.45	
TOTAL	195	472	667
	29.24	70.76	100.00

$$z = 2.16$$

FREQUENCY MISSING = 26

TABLE OF NITEWTCH BY ONSITE

NITEWTCH	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	SITE	
	IE		TOTAL
0	178	152	330
	49.04	41.87	90.91
	53.94	46.06	
	91.28	90.48	
1	17	16	33
	4.68	4.41	9.09
	51.52	48.48	
	8.72	9.52	
TOTAL	195	168	363
	53.72	46.28	100.00

$$z = -0.26$$

FREQUENCY MISSING = 14

Crosstabulation of Number of Respondents Who Report  
That Child Care Experiences Have Influenced Their  
Career Decision By Respondents' Marital Data  
With NPS Data Without NPS Data

TABLE OF INFLUNS BY MARRIED

INFLUNS	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT   SINGLE   MARRIED   TOTAL			
NO	28	359	387
	5.65	72.38	78.02
	7.24	92.76	
	56.00	80.49	
YES	22	87	109
	4.44	17.54	21.98
	20.18	79.82	
	44.00	19.51	
TOTAL	50	446	496
	10.08	89.92	100.00

$z = 6.95$

FREQUENCY MISSING = 197

TABLE OF INFLUNS BY MARRIED

INFLUNS	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT   SINGLE   MARRIED   TOTAL			
NO	26	181	207
	8.87	61.77	70.65
	12.56	87.44	
	55.32	73.58	
YES	21	65	86
	7.17	22.18	29.35
	24.42	75.58	
	44.68	26.42	
TOTAL	47	246	293
	16.04	83.96	100.00

$z = 2.52$

FREQUENCY MISSING = 84

Crosstabulation of Number of Respondents Who Report  
That Child Care Experiences Have Influenced Their  
Career Decision By Respondents' Officer/Enlisted Status  
With NPS Data Without NPS Data

TABLE OF INFLUNS BY RANK

INFLUNS	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT   ENLISTED   OFFICER   TOTAL			
NO	180	207	387
	36.22	41.73	78.02
	46.51	53.49	
	68.18	89.22	
YES	84	25	109
	16.94	5.04	21.98
	77.06	22.94	
	31.82	10.78	
TOTAL	264	232	496
	53.23	46.77	100.00

$z = 5.65$

FREQUENCY MISSING = 197

TABLE OF INFLUNS BY RANK

INFLUNS	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT   ENLISTED   OFFICER   TOTAL			
NO	174	33	207
	59.39	11.26	70.65
	84.06	15.94	
	68.50	84.62	
YES	80	6	86
	27.30	2.05	29.35
	93.02	6.98	
	31.50	15.38	
TOTAL	254	39	293
	86.69	13.21	100.00

$z = 2.06$

FREQUENCY MISSING = 84

Crosstabulation of Number of Respondents Who Report  
That Child Care Experiences Have Influenced Their  
Career Decision By Command Type

With NPS Data Without NPS Data

TABLE OF INFLUNS BY ONSITE

INFLUNS	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	
	IE	I	TOTAL
NO	120	267	387
	24.19	53.83	78.02
	31.01	68.99	
	68.97	82.92	
YES	54	55	109
	10.89	11.09	21.98
	49.54	50.46	
	31.03	17.08	
TOTAL	174	322	496
	35.08	64.92	100.00

$z = 3.58$

FREQUENCY MISSING = 197

TABLE OF INFLUNS BY ONSITE

INFLUNS	ONSITE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	INO-ONSITE	ONSITE	
	IE	I	TOTAL
NO	120	87	207
	40.96	29.69	70.65
	57.97	42.03	
	68.97	73.11	
YES	54	32	86
	18.43	10.92	29.35
	62.79	37.21	
	31.03	26.89	
TOTAL	174	119	293
	59.39	40.61	100.00

$z = 0.76$

FREQUENCY MISSING = 84

### Without NPS Data

TABLE OF POSITIV BY MARRIED

$$z = 3.72$$
$$z = 0.42$$

FREQUENCY MISSING = 208

$$Z = 2.32$$

FREQUENCY MISSING = 95



## With NPS Data

### Without NPS Data

POSITIV RANK

$$z = 4.29$$
$$z = 2.21$$

FREQUENCY MISSING = 208

POSITIVE RANK

$$z = 1.45$$
$$z = 0.70$$

FREQUENCY MISSING = 95

Crosstabulation of The Number of Respondents Who Report  
A Positive/Negative Influence of Child Care On Their Career  
Decision By Command Type

With NPS Data

Without NPS Data

TABLE OF POSITIV BY ONSITE

POSITIV	ONSITE		
FREQUENCY	IE	NO-ONSITE	TOTAL
PERCENT			
ROW PCT			
COL PCT			
LEAVE	33	35	68
	6.80	7.22	14.02
	48.53	51.47	
	19.88	10.97	
STAY	15	19	34
	3.09	3.92	7.01
	44.12	55.88	
	9.04	5.96	
N/A	118	265	383
	24.33	54.64	78.97
	30.81	69.19	
	71.08	83.07	
TOTAL	166	319	485
	34.23	65.77	100.00

$$z = 2.68$$

$$z = 1.26$$

FREQUENCY MISSING = 208

TABLE OF POSITIV BY ONSITE

POSITIV	ONSITE		
FREQUENCY	IE	NO-ONSITE	TOTAL
PERCENT			
ROW PCT			
COL PCT			
LEAVE	33	21	54
	11.70	7.45	19.15
	61.11	38.89	
	19.88	18.10	
STAY	15	8	23
	5.32	2.84	8.16
	65.22	34.78	
	9.04	6.90	
N/A	118	87	205
	41.84	30.85	72.70
	57.56	42.44	
	71.08	75.00	
TOTAL	166	116	282
	58.87	41.13	100.00

$$z = 0.37$$

$$z = 0.65$$

FREQUENCY MISSING = 95

Crosstabulation of Respondents Who Use The On-Site  
Child Development Center By Respondents' Gender  
With NPS Data Without NPS Data

TABLE OF USECTR BY FEMALE

USECTR	FEMALE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	MALE	IFEMALE	TOTAL
0	374	41	415
	76.48	8.38	84.87
	90.12	9.88	
	85.98	75.93	
1	61	13	74
	12.47	2.66	15.13
	82.43	17.57	
	14.02	24.07	
TOTAL	435	54	489
	88.96	11.04	100.00

z = -2.93

FREQUENCY MISSING = 1

TABLE OF USECTR BY FEMALE

USECTR	FEMALE		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	MALE	IFEMALE	TOTAL
0	128	23	151
	73.56	13.22	86.78
	84.77	15.23	
	90.14	71.88	
1	14	9	23
	8.05	5.17	13.22
	60.87	39.13	
	9.86	28.13	
TOTAL	142	32	174
	81.61	18.39	100.00

z = -2.76

Crosstabulation of Respondents Who Use The On-Site Child  
Development Center By Respondents' Officer/Enlisted Status  
With NPS Data Without NPS Data

TABLE OF USECTR BY RANK

USECTR	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
0	145	271	416
	29.59	55.31	84.90
	34.86	65.14	
	88.41	83.13	
1	19	55	74
	3.88	11.22	15.10
	25.68	74.32	
	11.53	16.87	
TOTAL	164	326	490
	33.47	66.53	100.00

z = -1.54

TABLE OF USECTR BY RANK

USECTR	RANK		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	ENLISTED	OFFICER	TOTAL
0	133	18	151
	76.44	10.34	86.78
	88.08	11.9	
	88.08	78.26	
1	18	5	23
	10.34	2.87	13.22
	78.26	21.74	
	11.92	21.74	
TOTAL	151	23	174
	86.78	13.22	100.00

z = -1.29

Crosstabulation of Respondents Who Use The On-Site  
Child Development Center By Respondents' Marital Status  
With NPS Data Without NPS Data

TABLE OF USECTR BY MARRIED

USECTR	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	29	387	416
	5.92	78.98	84.90
	6.97	93.03	
	87.88	84.68	
1	4	70	74
	0.82	14.29	15.10
	5.41	94.59	
	12.12	15.32	
TOTAL	33	457	490
	6.73	93.27	100.00

$$z = -0.49$$

TABLE OF USECTR BY MARRIED

USECTR	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
0	23	128	151
	13.22	73.56	86.78
	15.23	84.77	
	85.19	87.07	
1	4	19	23
	2.30	10.92	13.22
	17.39	82.61	
	14.81	12.93	
TOTAL	27	147	174
	15.52	84.48	100.00

$$z = 0.27$$

Crosstabulation of Numbers of Respondents Assigned To Bases  
Without On-Site Child Development Who Believed That Such A  
Facility Would Relieve Some Work Problems and Pressures  
By Respondents' Officer/Enlisted Status  
With NPS Data Without NPS Data

TABLE OF NEEDCTR BY RANK

NEEDCTR	RANK		
FREQUENCY	PERCENT		ROW PCT
COL PCT	ENLISTED	OFFICER	TOTAL
NO	19	9	28
	12.58	5.96	18.54
	67.86	32.14	
	14.73	40.91	
YES	108	13	121
	71.52	8.61	80.13
	89.26	10.74	
	83.72	59.09	
N/A	2	0	2
	1.32	0.00	1.32
	100.00	0.00	
	1.55	0.00	
TOTAL	129	22	151
	85.43	14.57	100.00

$$z = -2.92$$

$$z = 2.68$$

FREQUENCY MISSING = 52

TABLE OF NEEDCTR BY RANK

NEEDCTR	RANK		
FREQUENCY	PERCENT		ROW PCT
COL PCT	ENLISTED	OFFICER	TOTAL
NO	19	9	28
	12.58	5.96	18.54
	67.86	32.14	
	14.73	40.91	
YES	108	13	121
	71.52	8.61	80.13
	89.26	10.74	
	83.72	59.09	
N/A	2	0	2
	1.32	0.00	1.32
	100.00	0.00	
	1.55	0.00	
TOTAL	129	22	151
	85.43	14.57	100.00

FREQUENCY MISSING = 52

Crosstabulation of Numbers of Respondents Assigned to Bases  
Without On-Site Child Development Who Believed That Such a  
Facility Would Relieve Some Work Problems and Pressures  
By Respondents' Marital Status  
With NPS Data                      Without NPS Data

TABLE OF NEEDCTR BY MARRIED

NEEDCTR	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
NO	1	27	28
	0.66	17.88	18.54
	3.57	96.43	
	4.17	21.26	
YES	23	98	121
	15.23	64.90	80.13
	19.01	80.99	
	95.83	77.17	
N/A	0	2	2
	0.00	1.32	1.32
	0.00	100.00	
	0.00	1.57	
TOTAL	24	127	151
	15.89	84.11	100.00

$$z = -1.98$$

$$z = 2.10$$

FREQUENCY MISSING = 52

TABLE OF NEEDCTR BY MARRIED

NEEDCTR	MARRIED		
FREQUENCY			
PERCENT			
ROW PCT			
COL PCT	SINGLE	MARRIED	TOTAL
NO	1	27	28
	0.66	17.88	18.54
	3.57	96.43	
	4.17	21.26	
YES	23	98	121
	15.23	64.90	80.13
	19.01	80.99	
	95.83	77.17	
N/A	0	2	2
	0.00	1.32	1.32
	0.00	100.00	
	0.00	1.57	
TOTAL	24	127	151
	15.89	84.11	100.00

FREQUENCY MISSING = 52

RESULTS OF LOGISTIC REGRESSIONS  
MODEL I: REGRESSION ON THE DICHOTOMOUS VARIABLE "INFLUNS"

Factors Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of All Married Personnel At All Surveyed Commands.

DEPENDENT VARIABLE: INFLUNS

237 OBSERVATIONS  
178 INFLUNS = 0  
59 INFLUNS = 1  
389 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.168776	0	1	0.375347
PRESKOOL	0.729958	0	1	0.444921
INTRFERE	0.49789	0	1	0.501054
NONWHITE	0.227848	0	1	0.420332
RANK	0.388186	0	1	0.488369
FEMALE	0.130802	0	1	0.337897
SOMECOLL	0.675105	0	1	0.469327
SPOUSFUL	0.594937	0	1	0.491943
HIGHSAL	0.489451	0	1	0.500947

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 266.00

MODEL CHI-SQUARE= 43.75 WITH 9 D.F. (SCORE STAT.) P=0.0000.  
CONVERGENCE IN 6 ITERATIONS WITH 0 STEP HALVINGS R= 0.323.  
MAX ABSOLUTE DERIVATIVE=0.0 -2 LOG L= 220.31.  
MODEL CHI-SQUARE= 45.69 WITH 9 D.F. (-2 LOG L.R.) P=0.0000.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.41433380	0.55178122	19.15	0.0000	
MILCTR	0.18236747	0.44758454	0.17	0.6829	0.000
PRESKOOL	-0.04443204	0.43628839	0.01	0.9189	0.000
INTRFERE	1.52935407	0.37747035	16.42	0.0001	0.233
NONWHITE	0.09381197	0.40427670	0.05	0.8165	0.000
RANK	-0.52398929	0.44545734	1.38	0.2395	0.000
FEMALE	1.50292695	0.48212509	9.72	0.0018	0.170
SOMECOLL	0.31403517	0.41843341	0.57	0.4501	0.000
SPOUSFUL	0.90028788	0.42875319	4.41	0.0357	0.095
HIGHSAL	-0.98336667	0.39277567	6.27	0.0123	-0.127

C=0.762

SOMER DYX=0.525

GAMMA=0.510

TAU-A=0.197

Factor Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of all Married Officers at all Surveyed Commands.

DEPENDENT VARIABLE: INFLUNS

92 OBSERVATIONS

75 INFLUNS = 0

17 INFLUNS = 1

258 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.25	0	1	0.435385
PRESK00L	0.76087	0	1	0.42889
INTRFERE	0.543478	0	1	0.500835
NONWHITE	0.076087	0	1	0.26659
JUNIOR	0.630435	0	1	0.485332
FEMALE	0.108696	0	1	0.312963
EDUCATH	7.33696	5	8	0.560166
SPOUSFUL	0.413043	0	1	0.495079
HIGHSAL	0.532609	0	1	0.501669

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 88.06

MODEL CHI-SQUARE= 9.37 WITH 9 D.F. (SCORE STAT.) P=0.4039.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.0 .

MAX ABSOLUTE DERIVATIVE=0.4940D-04. -2 LOG L= 77.50.

MODEL CHI-SQUARE= 10.56 WITH 9 D.F. (-2 LOG L.R.) P=0.3073.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-6.13575000	4.24670490	2.09	0.1485	
MILCTR	0.61469664	0.71263591	0.74	0.3884	0.000
PRESK00L	-1.19703414	0.82326961	2.11	0.1459	-0.036
INTRFERE	1.39005720	0.71716008	3.76	0.0526	0.141
NONWHITE	-0.94155104	1.16267062	0.66	0.4180	0.000
JUNIOR	0.50317644	0.68250641	0.54	0.4610	0.000
FEMALE	0.51648756	0.87710197	0.35	0.5560	0.000
EDUCATH	0.56050615	0.55716846	1.01	0.3144	0.000
SPOUSFUL	1.31703195	0.77534517	2.89	0.0894	0.100
HIGHSAL	-1.11978270	0.77403937	2.09	0.1480	-0.032

C=0.737

SOMER DYX=0.474

GAMMA=0.479

TAU-A=0.144



Factors Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of all Married Enlisted Personnel at all Surveyed Commands.

DEPENDENT VARIABLE: INFLUNS

145 OBSERVATIONS

103 INFLUNS = 0

42 INFLUNS = 1

131 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.117241	0	1	0.322823
PRESKOOL	0.710345	0	1	0.455175
INTRFERE	0.468966	0	1	0.500766
NONWHITE	0.324138	0	1	0.469674
JUNIOR	0.4	0	1	0.491596
FEMALE	0.144828	0	1	0.353147
SOMECCLL	0.468966	0	1	0.500766
SPOUSFUL	0.710345	0	1	0.455175
HIGHSAL	0.462069	0	1	0.500287

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 174.53

MODEL CHI-SQUARE= 38.20 WITH 9 D.F. (SCORE STAT.) P=0.0000.

CONVERGENCE IN 6 ITERATIONS WITH 0 STEP HALVINGS R= 0.370.

MAX ABSOLUTE DERIVATIVE=0.1536D-09. -2 LOG L= 132.71.

MODEL CHI-SQUARE= 41.83 WITH 9 D.F. (-2 LOG L.R.) P=0.0000.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-3.01343093	0.72690602	17.19	0.0000	
MILCTR	-0.12676488	0.63546926	0.05	0.8296	0.000
PRESKOOL	0.09416147	0.61247742	0.02	0.8778	0.000
INTRFERE	1.89970823	0.49159930	14.93	0.0001	0.272
NONWHITE	0.20411664	0.47553236	0.18	0.6677	0.000
JUNIOR	0.68553567	0.49007643	1.96	0.1619	0.000
FEMALE	1.87135656	0.65325818	8.21	0.0042	0.189
SOMECCLL	0.59947940	0.44645248	0.80	0.3709	0.000
SPOUSFUL	0.76779375	0.57788443	1.77	0.1840	0.000
HIGHSAL	-1.06034781	0.51701363	4.21	0.0403	-0.112

C=0.816

SOMER DIX=0.632

GAMMA=0.635

TAU-A=0.262

Factors Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of all Single Personnel at all Surveyed Commands

DEPENDENT VARIABLE: INFLUNS

48 OBSERVATIONS  
26 INFLUNS = 0  
22 INFLUNS = 1  
19 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.125	0	1	0.334219
PRESKCOL	0.5425	0	1	0.501328
INTRFERE	0.395833	0	1	0.494204
NONWHITE	0.354167	0	1	0.483321
RANK	0.0833333	0	1	0.27931
FEMALE	0.416667	0	1	0.498224
SCHECOLL	0.479167	0	1	0.504852

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 66.21

MODEL CHI-SQUARE= 9.77 WITH 7 D.F. (SCORE STAT.) P=0.2021.  
CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.0  
MAX ABSOLUTE DERIVATIVE=0.6325D-08. -2 LOG L= 55.62.  
MODEL CHI-SQUARE= 10.58 WITH 7 D.F. (-2 LOG L.R.) P=0.1578.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-0.66626032	0.66013427	1.02	0.3128	
MILCTR	-0.65583991	1.02632521	0.41	0.5228	0.000
PRESKCOL	-0.50266448	0.80387521	0.39	0.5318	0.000
INTRFERE	1.72860812	0.91532551	3.57	0.0590	0.154
NONWHITE	0.64413693	0.76767380	0.70	0.4014	0.000
RANK	-1.49067715	1.59990403	0.87	0.3515	0.000
FEMALE	0.60263740	0.91453842	0.43	0.5099	0.000
SCHECOLL	-0.38196382	0.80361726	0.23	0.6346	0.000

C=0.799

SOMER DYX=0.598

GAMMA=0.624

TAU-A=0.303

Factors Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of All Married Personnel at Commands With On-Site Child Development Centers.

DEPENDENT VARIABLE: INFLUNS

140 OBSERVATIONS

114 INFLUNS = 0

26 INFLUNS = 1

317 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.242857	0	1	0.430349
PRESKCOL	0.764286	0	1	0.425968
INTRFERE	0.464286	0	1	0.500514
NONWHITE	0.207143	0	1	0.406714
RANK	0.542857	0	1	0.499949
FEMALE	0.135714	0	1	0.343715
SOMECCOL	0.721429	0	1	0.449906
SPOUSFUL	0.535714	0	1	0.500514
HIGHSAL	0.485714	0	1	0.501514

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 134.39

MODEL CHI-SQUARE= 29.50 WITH 9 D.F. (SCORE STAT.) P=0.0005.

CONVERGENCE IN 6 ITERATIONS WITH 0 STEP HALVINGS R= 0.313.

MAX ABSOLUTE DERIVATIVE=0.4320D-05. -2 LOG L= 103.26.

MODEL CHI-SQUARE= 31.12 WITH 9 D.F. (-2 LOG L.R.) P=0.0003.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-4.59800170	1.26040383	13.31	0.0003	
USECTR	0.50218137	0.55225335	0.83	0.3630	0.000
PRESKCOL	1.68107393	1.10777362	2.31	0.1287	0.048
INTRFERE	0.61693138	0.53922976	1.31	0.2526	0.000
NONWHITE	-0.59632466	0.63941760	0.87	0.3510	0.000
RANK	-0.55213999	0.67688820	0.67	0.4147	0.000
FEMALE	1.26432417	0.64580147	3.83	0.0503	0.117
SOMECCOL	0.56642515	0.71620318	0.63	0.4290	0.000
SPOUSFUL	1.97751544	0.69805071	8.03	0.0046	0.212
HIGHSAL	-0.77856476	0.57404011	1.84	0.1750	0.000

C=0.811

SOMER DYN=0.622

GAMMA=0.631

TAU-A=0.189

Factors Which Significantly Increase/Decrease the Probability  
of a Member's Child Care Experiences Influencing a Career  
Decision: Analysis of All Married Officers at Commands With  
On-Site Child Development Centers

DEPENDENT VARIABLE: INFLUNS

76 OBSERVATIONS

64 INFLUNS = 0

12 INFLUNS = 1

244 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.367632	0	1	0.46245
PRESKOOL	0.802632	0	1	0.400657
INTRFEPE	0.513158	0	1	0.503148
NONWHITE	0.0789474	0	1	0.271448
JUNIOR	0.671053	0	1	0.472953
FEMALE	0.118421	0	1	0.325253
EDUCATN	7.26316	5	8	0.550598
SPOUSFUL	0.407895	0	1	0.494709
HIGHSAL	0.5	0	1	0.503322

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY = 66.30

MODEL CHI-SQUARE = 13.61 WITH 9 D.F. (SCORE STAT.) P=0.1369.

CONVERGENCE IN 8 ITERATIONS WITH 0 STEP HALVINGS R= 0.0

MAX ABSOLUTE DERIVATIVE=0.1686D-01. -2 LOG L= 48.54.

MODEL CHI-SQUARE = 11.74 WITH 9 D.F. (-2 LOG L.R.) P=0.0381.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-6.45660610	20.04215905	0.10	0.7473	
USECTR	0.54816703	0.76035398	0.52	0.4709	0.000
PRESKOOL	7.47279895	19.46114843	0.13	0.7019	0.000
INTRFEPE	0.62974344	0.79606986	0.63	0.4289	0.000
NONWHITE	-0.01887482	1.42855381	0.00	0.9895	0.000
JUNIOR	2.21845436	1.20900177	3.37	0.0665	0.144
FEMALE	-0.05458820	0.98333674	0.00	0.9557	0.000
EDUCATN	-0.70999635	0.78841378	0.81	0.3678	0.000
SPOUSFUL	1.94472487	0.97813825	3.95	0.0468	0.172
HIGHSAL	-1.15759455	0.92751094	1.56	0.2120	0.000

C=0.847

SOMER DYX=0.694

GAMMA=0.700

TAU-A=0.187

Factors Which Significantly Increase/Decrease the Probability of a Member's Chile Care Experiences Influencing a Career Decision: Analysis of all Married Enlisted Personnel at Commands With On-Site Child Development Centers.

DEPENDENT VARIABLE: INFLUNS

64 OBSERVATIONS

50 INFLUNS = 0

14 INFLUNS = 1

73 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.171875	0	1	0.380254
PRESKOOL	0.71875	0	1	0.453163
INTRFERE	0.40625	0	1	0.495015
NONWHITE	0.359375	0	1	0.48361
JUNIOR	0.359375	0	1	0.48361
FEMALE	0.15625	0	1	0.365963
SOMECELL	0.390625	0	1	0.491747
HIGHSAL	0.46875	0	1	0.502967

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 67.24

MODEL CHI-SQUARE= 16.52 WITH 8 D.F. (SCORE STAT.) P=0.0355.

CONVERGENCE IN 6 ITERATIONS WITH 0 STEP HALVINGS R= 0.089.

MAX ABSOLUTE DERIVATIVE=0.8328D-08. -2 LOG L= 50.71.

MODEL CHI-SQUARE= 16.53 WITH 8 D.F. (-2 LOG L.R.) P=0.0354.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-3.53755548	1.24847967	8.07	0.0046	
USECTR	1.04304696	0.87974127	1.41	0.2358	0.000
PRESKOOL	1.52841582	1.28089918	1.42	0.2328	0.000
INTRFERE	0.68722120	0.86037546	0.64	0.4244	0.000
NONWHITE	-0.80318659	0.80077700	1.01	0.3159	0.000
JUNIOR	-0.52518205	0.86502496	0.37	0.5428	0.000
FEMALE	2.27412317	1.02588167	4.91	0.0266	0.208
SOMECELL	0.58988040	0.80901762	0.53	0.4659	0.000
HIGHSAL	0.36821184	0.77924790	0.22	0.6366	0.000

C=0.797

SOBER DVX=0.594

GAMMA=0.605

TAU-A=0.206

Factors Which Significantly Increase/Decrease the Probability of a Member's Child Care Experiences Influencing a Career Decision: Analysis of All Single-Personnel At Commands With On-Site Child Development Centers.

DEPENDENT VARIABLE: INFLUNS

21 OBSERVATIONS  
11 INFLUNS = 0  
10 INFLUNS = 1  
12 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.142857	0	1	0.358569
PRESKOOL	0.52381	0	1	0.511766
INTRFERE	0.428571	0	1	0.507093
NONWHITE	0.285714	0	1	0.46291
RANK	0.142857	0	1	0.358569
FEMALE	0.47619	0	1	0.511766
SOMECOLL	0.52381	0	1	0.511766

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 29.06

MODEL CHI-SQUARE= 5.35 WITH 7 D.F. (SCORE STAT.) P=0.6173.  
CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.0 .  
MAX ABSOLUTE DERIVATIVE=0.9891D-05. -2 LOG L= 22.83.  
MODEL CHI-SQUARE= 6.24 WITH 7 D.F. (-2 LOG L.R.) P=0.5122.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-1.76183952	1.22892421	2.06	0.1517	
USECTR	-2.46840760	1.88317847	1.72	0.1899	0.000
PRESKOOL	1.77520660	1.46108159	1.48	0.2244	0.000
INTRFERE	0.90109854	1.57573186	0.33	0.5674	0.000
NONWHITE	0.32788387	1.51083033	0.05	0.8230	0.000
RANK	-1.94219331	2.61503170	0.55	0.4577	0.000
FEMALE	0.44976513	1.68283697	0.07	0.7893	0.000
SOMECOLL	1.27720993	1.96214536	0.42	0.5151	0.000

C=0.773

SOMER DYX=0.545

GAMMA=0.566

TAU-A=0.286

# MODEL II: REGRESSION ON THE DICHOTOMOUS VARIABLES "INTRFERE"

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis Of All Married Personnel at All Surveyed Commands

DEPENDENT VARIABLE: INTRFERE

335 OBSERVATIONS

170 INTRFERE= 0

165 INTRFERE= 1

291 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.149254	0	1	0.356871
PRESKCOL	0.707463	0	1	0.455608
NONWHITE	0.226866	0	1	0.419431
RANK	0.468657	0	1	0.499763
FEMALE	0.125373	0	1	0.331637
SOMECOLL	0.722388	0	1	0.448491
SPOUSFUL	0.558209	0	1	0.497343
HIGHSAL	0.495522	0	1	0.500728

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 464.33

MODEL CHI-SQUARE= 38.13 WITH 9 D.F. (SCORE STAT.) P=0.0000.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.230.

MAX ABSOLUTE DERIVATIVE=0.2811D-09. -2 LOG L= 423.76.

MODEL CHI-SQUARE= 40.57 WITH 8 D.F. (-2 LOG L.R.) P=0.0000.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-1.78770156	0.37404792	22.84	0.0000	
MILCTR	0.05259810	0.33166122	0.03	0.8740	0.000
PRESKCOL	1.32286489	0.28172106	22.08	0.0000	0.208
NONWHITE	-0.37064336	0.29323264	1.60	0.2062	0.000
RANK	0.03530412	0.30412080	0.01	0.9076	0.000
FEMALE	-0.58069533	0.36795778	2.49	0.1145	-0.033
SOMECOLL	0.65983440	0.32187774	4.20	0.0404	0.069
SPOUSFUL	0.86916109	0.28932166	9.02	0.0027	0.123
HIGHSAL	-0.06109375	0.26735248	0.05	0.8192	0.000

C=0.690

SOMER DYX=0.380

GAMMA=0.389

TAU-A=0.190

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Married Officers At All Surveyed Commands.

DEPENDENT VARIABLE: INTRFERE

156 OBSERVATIONS

74 INTRFERE= 0

82 INTRFERE= 1

194 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.185897	0	1	0.390277
PRESKCOL	0.724359	0	1	0.448276
NONWHITE	0.115385	0	1	0.320514
JUNIOR	0.673077	0	1	0.4706
FEMALE	0.108974	0	1	0.312611
EDUCATN	7.26282	3	8	0.663443
SPOUSFUL	0.402846	0	1	0.492248
HIGHSAL	0.538462	0	1	0.500124

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 215.85

MODEL CHI-SQUARE= 19.85 WITH 8 D.F. (SCORE STAT.) P=0.0109.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.156.

MAX ABSOLUTE DERIVATIVE=0.1153D-08.

-2 LOG L= 194.63.

MODEL CHI-SQUARE= 21.23 WITH 8 D.F. (-2 LOG L.R.) P=0.0066.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.19747085	2.19271448	1.00	0.3163	
MILCTR	-0.38971387	0.45355981	0.74	0.3902	0.000
PRESKCOL	1.62704654	0.44892267	13.14	0.0003	0.227
NONWHITE	0.05796479	0.56205102	0.01	0.9179	0.000
JUNIOR	-0.68297057	0.39739824	2.95	0.0857	-0.066
FEMALE	-0.77724145	0.59269550	1.72	0.1897	0.000
EDUCATN	0.17534294	0.29407983	0.36	0.5510	0.000
SPOUSFUL	0.87866482	0.44036615	3.98	0.0460	0.096
HIGHSAL	0.20804571	0.39600393	0.28	0.5993	0.000

C=0.704

SOMER DYX=0.407

GAMMA=0.417

TAU-A=0.204



Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Married Enlisted Personnel at All Surveyed  
Commands

DEPENDENT VARIABLE: INTRFERE

178 OBSERVATIONS

95 INTRFERE= 0

83 INTRFERE= 1

98 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.117978	0	1	0.323491
PRESKOOL	0.691011	0	1	0.46338
NONWHITE	0.325843	0	1	0.470011
JUNIOR	0.376404	0	1	0.48585
FEMALE	0.140449	0	1	0.348433
SOMECOLL	0.488764	0	1	0.501284
SPOUSFUL	0.691011	0	1	0.46338
HIGHSAL	0.460674	0	1	0.499857

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 245.95

MODEL CHI-SQUARE= 26.29 WITH 8 D.F. (SCORE STAT.) P=0.0009.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.224.

MAX ABSOLUTE DERIVATIVE=0.2813D-08. -2 LOG L= 217.63.

MODEL CHI-SQUARE= 28.32 WITH 8 D.F. (-2 LOG L.R.) P=0.0004.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-1.44201826	0.45767507	12.88	0.0003	
MILCTR	0.55530020	0.52326586	1.13	0.2886	0.000
PRESKOOL	1.48364190	0.41730338	12.64	0.0004	0.208
NONWHITE	-0.50344362	0.35873884	1.97	0.1605	0.000
JUNIOR	-0.45808620	0.37281689	1.51	0.2192	0.000
FEMALE	-0.36968911	0.49887392	0.55	0.4587	0.000
SOMECOLL	0.59602741	0.33827453	3.10	0.0781	0.067
SPOUSFUL	0.98804737	0.41959736	5.54	0.0185	0.120
HIGHSAL	-0.44656497	0.37938189	1.39	0.2392	0.000

C=0.728

SOMER DYX=0.455

GAMMA=0.462

TAU-A=0.228

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Single Personnel At All Surveyed Commands.

DEPENDENT VARIABLE: INTRFERE

65 OBSERVATIONS  
38 INTRFERE= 0  
27 INTRFERE= 1  
2 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
MILCTR	0.123077	0	1	0.331082
PRESK00L	0.538462	0	1	0.502398
NONWHITE	0.338462	0	1	0.476869
RANK	0.107692	0	1	0.312404
FEMALE	0.461538	0	1	0.502398
SCMECOLL	0.523077	0	1	0.503354

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 88.24

MODEL CHI-SQUARE= 17.93 WITH 6 D.F. (SCORE STAT.) P=0.0064.  
CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.292.  
MAX ABSOLUTE DERIVATIVE=0.2527D-06. -2 LOG L= 68.73.  
MODEL CHI-SQUARE= 19.50 WITH 6 D.F. (-2 LOG L.R.) P=0.0034.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.02722492	0.68794247	8.68	0.0032	
MILCTR	0.78206846	0.93431040	0.70	0.4026	0.000
PRESK00L	-0.12812882	0.67561721	0.04	0.8496	0.000
NONWHITE	0.08918030	0.67748023	0.02	0.8953	0.000
RANK	1.09197429	1.00203004	1.19	0.2759	0.000
FEMALE	2.13243954	0.64568160	10.91	0.0010	0.318
SCMECOLL	0.76509816	0.66814979	1.31	0.2522	0.000

C=0.805

SCHEM DYX=0.609

GAMMA=0.624

TAU-A=0.300

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Married Personnel At Commands With On-Site  
Child Development Centers.

DEPENDENT VARIABLE: INTRFERE

223 OBSERVATIONS

116 INTRFERE= 0

107 INTRFERE= 1

234 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.192825	0	1	0.395404
PRESKOOL	0.735426	0	1	0.442048
NONWHITE	0.201794	0	1	0.402242
RANK	0.61435	0	1	0.487844
FEMALE	0.134529	0	1	0.341988
SOMECOLL	0.775785	0	1	0.418003
SPOUSFUL	0.506726	0	1	0.50108
HIGHSAL	0.493274	0	1	0.50108

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 308.78

MODEL CHI-SQUARE= 29.79 WITH 8 D.F. (SCORE STAT.) P=0.0002.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.230.

MAX ABSOLUTE DERIVATIVE=0.1061D-C7. -2 LOG L= 276.38.

MODEL CHI-SQUARE= 32.40 WITH 8 D.F. (-2 LOG L.R.) P=0.0001.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.18917435	0.51142120	18.32	0.0000	
USECTR	-0.07674440	0.37104272	0.04	0.8361	0.000
PRESKOOL	1.41205843	0.37035106	14.54	0.0001	0.201
NONWHITE	-0.44465530	0.39391812	1.27	0.2590	0.000
RANK	-0.43621249	0.42331865	1.06	0.3028	0.000
FEMALE	-0.83508376	0.45309917	3.40	0.0653	-0.067
SOMECOLL	1.53795225	0.48820179	9.92	0.0016	0.160
SPOUSFUL	0.58360378	0.35450688	2.71	0.0997	0.048
HIGHSAL	0.04837778	0.32923690	0.02	0.8832	0.000

C=0.712

SOMER DYX=0.425

GAMMA=0.439

TAU-A=0.213

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Married Officers At Commands With On-Site  
Child Development Centers.

DEPENDENT VARIABLE: INTRFERE

136 OBSERVATIONS

65 INTRFERE= 0

71 INTRFERE= 1

184 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.213235	0	1	0.411107
PRESK00L	0.757353	0	1	0.430268
NONWHITE	0.117647	0	1	0.323381
JUNIOR	0.713235	0	1	0.453923
FEMALE	0.117647	0	1	0.323381
EDUCATH	7.22794	5	8	0.557334
SPOUSFUL	0.397059	0	1	0.491097
HIGHSAL	0.522059	0	1	0.50134

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 188.27

MODEL CHI-SQUARE= 17.71 WITH 8 D.F. (SCORE STAT.) P=0.0235.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.124.

MAX ABSOLUTE DERIVATIVE=0.5842D-09. -2 LOG L= 169.36.

MODEL CHI-SQUARE= 18.91 WITH 8 D.F. (-2 LOG L.R.) P=0.0153.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.17162217	2.51274179	0.75	0.3875	
USECTR	-0.40443054	0.46744186	0.75	0.3869	0.000
PRESK00L	1.71264230	0.51117837	11.23	0.0008	0.221
NONWHITE	0.14055951	0.60971707	0.05	0.8177	0.000
JUNIOR	-0.86977529	0.43536178	3.99	0.0458	-0.103
FEMALE	-0.65128081	0.63065191	1.07	0.3017	0.000
EDUCATH	0.17986595	0.34890697	0.27	0.6062	0.000
SPOUSFUL	0.96696182	0.47656330	4.12	0.0425	0.106
HIGHSAL	0.09896755	0.41924888	0.06	0.8134	0.000

C=0.693

SOMER DYX=0.386

GAMMA=0.398

TAU-A=0.194

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Married Enlisted Personnel At Commands With  
On-Site Child Development Centers.

DEPENDENT VARIABLE: INTRFERE

86 OBSERVATIONS

50 INTRFERE= 0

36 INTRFERE= 1

51 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.162791	0	1	0.37134
PRESKCOL	0.697674	0	1	0.461959
NONWHITE	0.337209	0	1	0.47553
JUNIOR	0.348837	0	1	0.479398
FEMALE	0.162791	0	1	0.37134
SOMECOLL	0.430233	0	1	0.498012
SPOUSFUL	0.674419	0	1	0.47134
HIGHSAL	0.453488	0	1	0.500752

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 116.93

MODEL CHI-SQUARE= 23.23 WITH 8 D.F. (SCORE STAT.) P=0.0031.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.299.

MAX ABSOLUTE DERIVATIVE=0.2347D-05. -2 LOG L= 90.47.

MODEL CHI-SQUARE= 26.47 WITH 8 D.F. (-2 LOG L.R.) P=0.0003.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-1.79121944	0.67190289	7.11	0.0077	
USECTR	0.44615006	0.74174689	0.36	0.5475	0.000
PRESKCOL	1.98584152	0.69552490	8.15	0.0047	0.229
NONWHITE	-0.79924204	0.59037877	1.83	0.1758	0.000
JUNIOR	-1.18137081	0.61306407	3.71	0.0540	-0.121
FEMALE	-1.25005894	0.84300363	2.20	0.1381	-0.041
SOMECOLL	1.88340209	0.58830417	10.25	0.0014	0.266
SPOUSFUL	-0.07061834	0.65019407	0.01	0.9135	0.000
HIGHSAL	0.01666354	0.60716174	0.00	0.9781	0.000

C=0.808

SOHER DYX=0.616

GAMMA=0.625

TAU-A=0.303

Factors Which Significantly Increase/Decrease the Probability  
of a Member Experiencing Child Care-Related Work Interference:  
Analysis of All Single Personnel At Commands With On-Site  
Child Development Centers.

DEPENDENT VARIABLE: INTRFERE

33 OBSERVATIONS

17 INTRFERE= 0

16 INTRFERE= 1

0 OBSERVATIONS DELETED DUE TO MISSING VALUES

VARIABLE	MEAN	MINIMUM	MAXIMUM	S. D.
USECTR	0.121212	0	1	0.331434
PRESKCOL	0.484848	0	1	0.507519
NONWHITE	0.272727	0	1	0.452267
RANK	0.181818	0	1	0.391675
FEMALE	0.545455	0	1	0.50565
SOMECDL	0.575758	0	1	0.50189

-2 LOG LIKELIHOOD FOR MODEL CONTAINING INTERCEPT ONLY= 45.72

MODEL CHI-SQUARE= 10.40 WITH 6 D.F. (SCORE STAT.) P=0.1087.

CONVERGENCE IN 5 ITERATIONS WITH 0 STEP HALVINGS R= 0.0

MAX ABSOLUTE DERIVATIVE=0.2986D-05. -2 LOG L= 33.76.

MODEL CHI-SQUARE= 11.96 WITH 6 D.F. (-2 LOG L.R.) P=0.0629.

VARIABLE	BETA	STD. ERROR	CHI-SQUARE	P	R
INTERCEPT	-2.71608244	1.12682317	5.81	0.0159	
USECTR	0.86728162	1.40681514	0.38	0.5376	0.000
PRESKCOL	0.77494614	0.95245214	0.64	0.4159	0.000
NONWHITE	1.12470266	1.15345769	0.95	0.3295	0.000
RANK	1.92001905	1.38529638	1.92	0.1657	0.000
FEMALE	1.95949298	1.03267287	3.60	0.0578	0.187
SOMECDL	0.68370865	1.10652422	0.38	0.5366	0.000

C=0.824

SOHER DYX=0.647

GAMMA=0.667

TAU-A=0.333

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